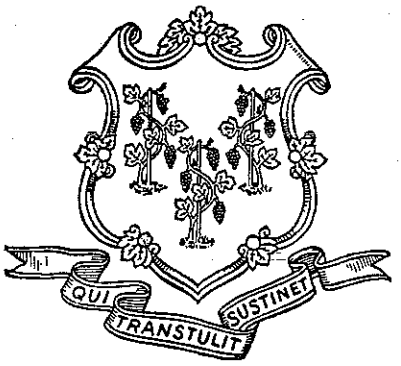
CONNECTICUT RESOURCES RECOVERY AUTHORITY: SOLID WASTE MANAGEMENT FEES

Connecticut

General Assembly



LEGISLATIVE
PROGRAM REVIEW
AND
INVESTIGATIONS
COMMITTEE

December 1993

CONNECTICUT GENERAL ASSEMBLY
LEGISLATIVE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE

The Legislative Program Review and Investigations Committee is a joint, bipartisan, statutory committee of the Connecticut General Assembly. It was established in 1972 to evaluate the efficiency, effectiveness, and statutory compliance of selected state agencies and programs, recommending remedies where needed. In 1975, the General Assembly expanded the committee's function to include investigations, and during the 1977 session added responsibility for "sunset" (automatic program termination) performance reviews. The committee was given authority to raise and report bills in 1985.

The program review committee is composed of 12 members. The president pro tempore of the senate, the senate minority leader, the speaker of the house, and the house minority leader each appoint three members.

1993-1994 Committee Members

Senate	*House*
Judith G. Freedman	Wade A. Hyslop
Co-chairman	*Co-chairman*
William A. DiBella	Robert D. Bowden
Joseph H. Harper, Jr.	Susan Bysiewicz
Fred H. Lovegrove, Jr.	Gene Gavin
Win Smith, Jr.	Kevin F. Rennie
Kevin B. Sullivan	Carl J. Schiessl

Committee Staff

Michael L. Nauer, Ph.D., Director
George W. McKee, Chief Analyst
L. Spencer Cain, Chief Analyst
Carrie E. Vibert, Chief Attorney
Catherine M. Conlin, Principal Analyst
Jill E. Jensen, Principal Analyst
Anne E. McAloon, Principal Analyst
Brian R. Beisel, Associate Analyst
Michelle Castillo, Associate Analyst
Maryellen Duffy, Associate Analyst
Renee La Mark Muir, Associate Analyst
Bonnine T. Klare, Executive Secretary

Staff for this Project

JILL E. JENSEN

STATE CAPITOL ROOM 506 HARTFORD, CT 06106 (203) 240-0300

LEGISLATIVE PROGRAM REVIEW
& INVESTIGATIONS COMMITTEE

Connecticut Resources Recovery Authority:

Solid Waste Management Fees

DECEMBER 1993

TABLE OF CONTENTS

SUMMARY i

INTRODUCTION 1

Scope 1
Methods 1
Organization 2
Recent Developments 2

I. OVERVIEW: MUNICIPAL SOLID WASTE MANAGEMENT 3

Waste Management Methods 5
Waste Management Roles 7

II. CONNECTICUT'S WASTE MANAGEMENT SYSTEM 11

Resources Recovery Projects 12
CRRA Organization and Activities 17

III. FEES FOR WASTE MANAGEMENT SERVICES 25

Resources Recovery Tip Fees 26

VI. FINDINGS AND RECOMMENDATIONS 39

Fee Equalization 40
Operating Cost Controls 45
Electric Sales Revenues 51
System Capacity 54

APPENDICES

A. Agency Response
B. Connecticut Municipalities Served by Resources Recovery Projects
C. Average Power Purchase Prices by State
D. Municipal Official Survey

SUMMARY

Connecticut Resources Recovery Authority: Fees for Solid Waste Management Services

The Connecticut Resources Recovery Authority (CRRA), a statutory quasi-public agency, was created in 1973 to implement the state's solid waste management plan. By 1993, over 100 municipalities in the state were served by the 4 waste-to-energy plants, 11 transfer stations, and 5 landfills operated by the authority while CRRA's two regional recycling centers served nearly 70 communities. User fees and revenues from the sale of energy and recycled materials support the authority and its operations, which by law must be financially self-sustaining.

An apparent trend of rising service charges along with disparities in fees paid by users of CRRA facilities prompted the Legislative Program Review and Investigations Committee to undertake a study of authority "tipping fees" in April 1993. The goal of the committee's study was to determine what, if any, changes in policy or procedure are needed to improve effectiveness and equity of the authority's user fees. The nine-month review focused on CRRA's fee-setting process, the factors that contribute to the authority's fee structure, and the fairness of the tip fees charged at the authority's resources recovery facilities.

Trends in tip fees at CRRA and other state facilities as well as national and regional data on waste-to-energy costs and fees were examined by the committee. CRRA projects were examined in detail to try to determine the basis for current rate structures. The authority's budget-setting process, existing controls over costs, and possible alternatives such as economic regulation of tip fees were reviewed during the committee's research process.

From its research, the program review committee found that tip fees charged to members of resources recovery facilities Connecticut varied, ranging from just over $50 to almost $100 per ton in 1993, but on average were comparable to fees paid in other northeastern states. In general, it is difficult to compare waste-to-energy plant fees within the state or among jurisdictions since the range of services covered by the per-ton charge can vary significantly and fees may be subsidized. The primary reason Connecticut tip fees vary by facility, according to the committee's research, is that the revenue and expense structure of each resources recovery project differs.

The program review committee also found that tip fees at resources recovery facilities are a function of operating costs and waste deliveries. Members of Connecticut Resources Recovery Authority projects are obligated by contract to pay the net operating costs of their facilities based on the amount of waste they deliver. If a project's expenses increase while its waste deliveries remain constant, user fees will rise. Similarly, if facility operating costs are stable over time but less waste is processed, per-ton charges will go up.

Over the past few years, the amount of contracted waste delivered to CRRA facilities has declined. Shortages are attributed to the economic recession, implementation of mandatory recycling, and possibly flow control violations. Excess capacity has been filled with garbage from the spot market but at prices significantly lower than member tip fees. Out-of-state waste generators and Connecticut municipalities without long-term trash disposal arrangements have benefitted from the low disposal prices produced by competition for garbage. For project members, however, it has meant less revenue to offset project operating costs. Low spot prices additionally are a disincentive to joining waste-to-energy projects. Furthermore, many within the state are concerned that reliance on out-of-state waste to fill plant capacity will continue.

It became clear during the committee's study that members of CRRA resources recovery projects were also worried about higher-than-projected operating budgets at their facilities. To some extent, increased expenses are due to more stringent environmental requirements related to ash residue disposal and air emissions. Modifications to improve plant efficiency or resolve technical problems also have raised costs in some cases. Municipalities that belong to CRRA projects have little recourse when rising operating costs require higher tip fees, even if they believe expenses are unnecessary or unreasonable.

The program review committee identified and considered a variety of approaches for addressing tip fee concerns that encompassed the following options: reducing facility operating costs; increasing project revenues; minimizing excess capacity and/or increasing the supply of waste; and subsidizing fees. A series of nine legislative and administrative actions intended to improve the fairness and efficiency of CRRA tip fees were adopted by committee members on December 17, 1993. The committee's final recommendations, listed below, center on strengthening member towns' control over CRRA facility operations and expenses and augmenting Department of Environmental Protection (DEP) efforts to monitor system capacity and plan for new services. Further legislative scrutiny of recent resources recovery facility permitting activities along with suspending efforts to add new plants to the system is also advocated.

RECOMMENDATIONS

1. The Connecticut Resources Recovery Authority shall analyze the costs and benefits of purchasing all rights to excess capacity at the Bridgeport and Southeast resources recovery project and report its findings to the legislature's environment committee for consideration during the 1994 regular session of the General Assembly.

2. The Connecticut Resources Recovery Authority in conjunction with the Southeast Connecticut Regional Resources Recovery Authority shall: 1) analyze the economics of the Southeast project, including trends in operating costs, revenues, and waste deliveries; and 2) submit a summary of their findings along with proposed strategies improving the

project finances by attracting new members and other means to the legislature for consideration during the 1994 regular session of the General Assembly.

3. Amend C.G.S. Sec. 22a-261(g) to provide that two ad hoc members to represent the municipal members of each CRRA resources recovery facility shall be appointed to the board by the governor with the advice and consent of the General Assembly. The ad hoc members shall be electors from municipalities served by the facility and shall vote only on matters concerning that facility, including but not limited to all budget items that effect the fees charged project members.

4. Members towns shall be authorized to require that an independent management audit be of their project be conducted.

5. Economic regulation of resources recovery tipping fees is not recommended.

6. Repeal C.G.S. Sec. 16-243e concerning the subsidized purchase of power produced by resources recovery facilities at the municipal rate.

7. The Department of Environmental Protection as part of its solid waste management planning responsibility monitor resources recovery facilities shall determine the current status as well as future trends of excess capacity and reliance on out-of-state waste. This information shall be included in the statewide solid waste management plan. Furthermore, it shall be provided to the legislature's environment committee on an annual basis beginning in February 1994. Finally, the current statewide solid waste management plan shall include a detailed analysis of additional types of waste and estimated amounts that could be processed by resources recovery facilities.

8. Institute a five-year moratorium on making a written determination of need for a resources recovery facility as provided under C.G.S. Sec. 22a-208d.

9. A study of the Department of Environmental Protection process for determining the need for a resources recovery facility focusing on the commissioner's decision to permit construction of the plant in Lisbon, Connecticut shall be undertaken by the program review committee during 1994.

INTRODUCTION

The Connecticut Resources Recovery Authority (CRRA), a statutory quasi-public agency, was created in 1973 to implement the state's solid waste management plan. By 1993, over 100 municipalities in the state were served by waste-to-energy plants and related solid waste facilities operated by the authority. User fees and revenues from the sale of energy and recycled materials support the authority and its operations, which by law must be financially self-sustaining. For FY 94, tipping fees--the per-ton charge for disposal services--paid by the member towns of the four CRRA resources recovery projects were expected to total nearly $83 million.

The Legislative Program Review and Investigations Committee voted to undertake a study of CRRA tipping fees in April 1993. The committee's review was prompted by municipal concerns over an apparent trend of rising operating costs at CRRA facilities as well as the significant differences in tip fees paid by project members versus other customers. The goal of the committee's study was to determine what, if any, changes in policy or procedure were needed to improve effectiveness and equity of the authority's user fees. The scope was focused on CRRA's fee-setting process, the factors that contribute to the authority's fee structure, and the fairness of the tip fees charged at the authority's resources recovery facilities.

Methods. Information for the review was gathered by a number of methods. Relevant documents were reviewed and a wide range of individuals involved in solid waste management issues, from authority staff and environmental protection department personnel to local officials and national experts, were interviewed. A variety of historical and comparative data on solid waste management fees were compiled. Trends in tip fees at CRRA and other state waste-to-energy facilities as well as national and regional data on municipal solid waste management costs and fees were analyzed.

CRRA projects were examined in detail to try to determine the basis for current rate structures. The authority's budget-setting process, existing controls over costs, and possible alternatives such as economic regulation of tip fees were reviewed during the committee's research process. Program review staff attended monthly meetings of the CRRA board of directors and observed several meetings of the operating committee that oversees the Bristol resources recovery facility, the only non-CRRA plant in the state. Committee staff also conducted site visits of all operational waste-to-energy facilities in Connecticut as well as both regional recycling centers operated by CRRA.

A questionnaire was developed and sent to the chief elected officials of all 169 Connecticut cities and towns to elicit information and opinions from municipalities about CRRA tipping fees. The program review committee also held two public hearings, one in Westport and one in Hartford, to obtain input about the fairness and efficiency of the authority's service charges as well as the effectiveness of its fee-setting process.

Report organization. The committee's final report is organized into four chapters. The first chapter provides an overview of municipal solid waste--how it is defined, the methods for managing it, and the roles of government and the private sector. The system in Connecticut for managing municipal solid waste is described in Chapter II, with an emphasis on the state's resources recovery facilities. Detailed information on tip fees, focusing on waste-to-energy service charges, is presented in Chapter III. The program review committee's findings and recommendations are discussed in Chapter IV.

It is the policy of the Legislative Program Review and Investigations Committee to provide agencies subject to study with an opportunity to review and comment on recommendations prior to the publication of a report. Formal responses to this report were solicited from the Department of Environmental Protection (DEP) as well as the Connecticut Resources Recovery Authority. Written comments received from the two agencies are contained in Appendix A.

Recent developments. The program review committee voted on the recommendations contained in this report in December 1993; publication of the report, however, was delayed until June 1994. Usually, a document is prepared for publication immediately following the committee's final action. In this case, publication was postponed while committee staff developed preliminary information on a related issue--the determination-of-need process for the resources recovery facility under construction in Lisbon, Connecticut. As directed by the committee, program review staff prepared background materials on this topic for the members' use during the 1994 regular session of the General Assembly. The full study of the Lisbon need determination process is scheduled to be completed by December 1994.

Following the legislative session's end in May 1994, committee staff edited this report for printing and solicited the formal agency responses. As the responses note, several significant legal developments regarding matters discussed in the following chapters have occurred since the committee study concluded in December. Two U.S. Supreme Court cases relevant to tip fees pending at the end of last year were decided in the spring of 1994. Local flow control ordinances were found unconstitutional in one case while in the second the court ruled that ash residue from waste-to-energy plants was subject to federal hazardous waste regulations. In addition, a state-level appeal of DEP's decision to grant a permit to construct the Lisbon resources recovery facility was recently sustained. As a result, the Lisbon permit matter was remanded to the agency for reconsideration.

While all three court cases have implications for resources recovery facilities in Connecticut, none appear to have any substantial effect on the recommendations the program review committee adopted to improve CRRA tipping fees. However, the flow control ruling in particular is expected to have a dramatic impact on capacity at waste-to-energy plants. Excess capacity issues are being examined as part of the committee's continuing review of the Lisbon resources recovery facility determination-of-need process noted above.

CHAPTER I
OVERVIEW: MUNICIPAL SOLID WASTE MANAGEMENT

Municipal solid waste management is one of the more complex issues facing state and local government. Acceptable options for disposing of garbage are diminishing, environmental concerns over improper waste management are strong, and the costs of proper waste services are significant and rising. Like other states and most countries, Connecticut is finding it difficult to implement its solid waste management policy--one that seeks to ensure adequate services are provided at a reasonable cost while protecting, preserving, and enhancing the environment.

Definitions vary but municipal solid waste (MSW) commonly refers to discarded or unwanted residential, institutional, or commercial materials and products, excluding any regulated as hazardous under federal or state law. In addition, wastes that are not legally defined as hazardous but require special handling may not be considered part of the municipal solid waste stream in some jurisdictions. Connecticut's legal definition of municipal solid waste, for example, excludes scrap metal, medical wastes, sewage sludge, and bulky wastes (e.g., landclearing and demolition debris).

The major components of municipal solid waste according to the most recent available analysis conducted for the U.S. Environmental Protection Agency (EPA) are shown in Figure I-1. As the figure indicates, paper and yard wastes make up significant portions of the total amount municipal solid waste generated in the United States, nearly 40 and 20 percent, respectively in 1990. Glass, metal, and plastics along with food wastes account for smaller percentages (about 7 to 8 percent) while all other materials--rubber, leather, textiles, wood, and miscellaneous waste--comprise the remaining total weight of MSW generated in 1990.

The amount of municipal solid waste generated in the United States grows each year. According to recent studies, most of the increase is attributable to population growth but waste generation also seems to be increasing on a per capita basis.[1] The U.S. EPA projects that by the year 2000, per capita MSW generation will be 4.4 pounds per person per day (216 million tons per year) compared to 4.0 (180 million tons) in 1988 and 2.7 (88 million tons) in 1960.[2]

In the current statewide solid waste management plan, adopted in 1991, the Connecticut Department of Environmental Protection (DEP) estimated that each person in the state generates, on average, almost a ton of municipal solid waste annually (0.89 tons per capita per year). Based on this rate, the plan projects that by the year 2010, municipal solid waste generated in

---

[1] United States Office of Technology Assessment, *Summary: Facing America's Trash--What Next for Municipal Solid Waste?*, October 1989, p.2.

[2] National Conference of State Legislatures, *Solid Waste Management: 1989-1990 State Legislation*, November 1990, p. 13.

Municipal Solid Waste in the U.S., 1990

Total Weight = 195.7 million tons

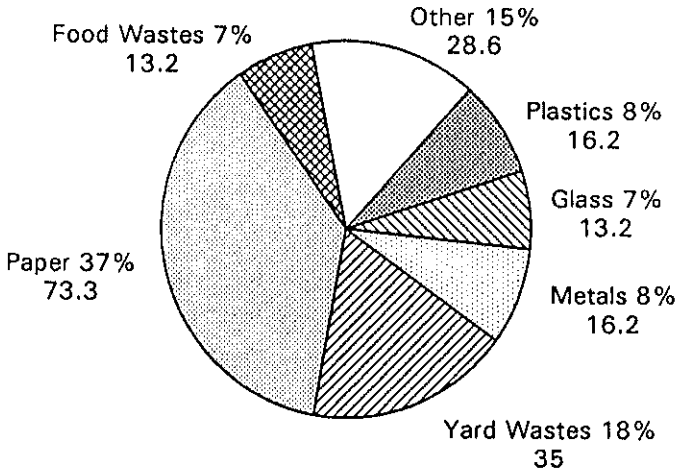


Figure I-1. Materials Generated (in millions tons)

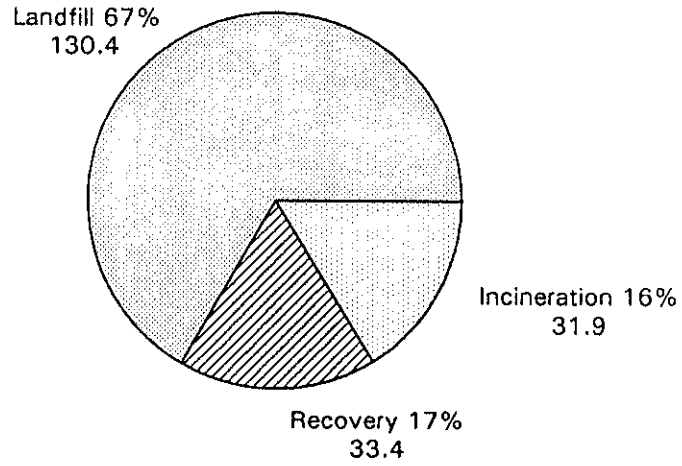


Figure I-2. Management of MSW (in millions tons)

Source of Data: U.S. EPA, 1992

Connecticut will exceed 3 million tons per year, even taking into account future recycling efforts.

As the DEP plan notes, precise data on how much and what kinds of trash are generated in Connecticut are not available at this time. It is only within the past few years, as resources recovery facilities have begun operating, that any significant amounts of municipal solid waste have been weighed prior to disposal. Most current waste generation data both for Connecticut and nationally are only estimates and must be used cautiously. It should also be noted that the amount of garbage a community produces is affected by a number of factors, including economic conditions, recycling policies and practices, industrial presence, housing density, income levels of residents, and even the weather. Efforts to project future waste generation, even with better baseline data, are complicated given that so many production variables are difficult to predict.

WASTE MANAGEMENT METHODS

In the past, municipal solid waste was managed by either burying it in landfills or burning it in incinerators. More recently, in response to environmental concerns, waste reduction, reuse, and recycling have been emphasized throughout the U.S. Modern waste-to-energy incinerators, which burn garbage to reduce its volume and recover useful power, operate world-wide and the capacity of such facilities is increasing steadily. The two basic types of resource recovery facilities that incinerate municipal solid waste are:

> **Mass-burn**, which incinerate waste as it is delivered after recycling has taken place; and
>
> **Refuse-derived fuel (RDF)**, which remove recyclable materials from delivered waste and shred or process the rest into a uniform fuel while non combustible material is landfilled. The fuel can be burned in a special boiler or mixed with a traditional fuel (e.g., coal) and burned in a boiler fitted with auxiliary equipment.[3]

While modern burn plants are considered to be a significant improvement over ordinary garbage incinerators, questions remain over possible health and environmental risks from their air emissions and from resulting ash. A continuing controversy is whether the ash produced must be managed as hazardous waste. This issue was before the U.S. Supreme Court at the time of the committee's study. To date, waste-to-energy facilities have been exempt from federal hazardous waste regulation. If the court decides resources recovery facility ash must be tested and, depending on test results treated as hazardous waste, the impact on plant operating costs could be significant.

---

[3] Ibid, p. 30

Despite trends toward recovery and recycling, most municipal solid waste generated in the United States continues to be landfilled. Recent EPA data, which are presented in Figure I-2, show that in 1990 about 70 percent of the nearly 196 million tons of garbage generated nationwide was disposed of in landfills. This does represent a decline from 1986, however, when 80 percent of all municipal solid waste was landfilled.

At present, solid waste experts advocate an integrated approach to municipal solid waste. Integrated waste management programs, as recommended by the U.S. Environmental Protection Agency (EPA), include the following four major components:

> **Waste reduction:** changing marketing, manufacturing, and social practices to reduce the amount and toxicity of wastes generated.
>
> **Reuse/recycling:** recovering marketable materials from the waste stream and using them again.
>
> **Resource recovery and incineration:** converting waste to energy through high-temperature, controlled combustion and emission incineration, thus reducing the volume of waste going to landfills.
>
> **Landfilling:** disposing of the remaining wastes, including unburnable materials and combustion ash, in environmentally safe landfills.[4]

Connecticut policies. Legislation essentially adopting integrated waste management as state policy was enacted in Connecticut in 1989. Under P.A. 89-130, the following hierarchy of solid waste management methods was established as state law: source reduction, recycling, composting, bulky waste recycling, resources recovery, incineration, and landfilling.

Connecticut's current statewide solid waste management plan, as required, incorporates the statutory hierarchy within its strategies for meeting waste goals. Strategies include minimizing waste generation and land disposal, expanding recycling, and utilizing resources recovery. The plan, adopted in 1991 and scheduled for updating this year, establishes a minimum commitment of 37 percent recycling/source reduction and a maximum limit of 59 percent resources recovery and alternative technologies (e.g., composting) while assigning a nominal percentage to incineration and land disposal.

Mandatory recycling was enacted in Connecticut in 1987. Under P.A. 87-544 (as amended by P.A. 90-220), certain items designated as recyclable must be separated from other trash. A goal of recycling 25 percent of the municipal solid waste generated in Connecticut

---

[4] Ibid, p. 17.

beginning January 1, 1991 was also established. Among the items that must be recycled in Connecticut are: cardboard; glass and metal food containers; newspaper; leaves; used engine oil; storage batteries; and scrap metal. Businesses are additionally required to recycle white and manilla office paper. The state recycling goal was recently increased to 40 percent under P.A. 93- 423.

Connecticut's commitment to resources recovery, defined in state law as processing solid waste to reclaim material or energy values, dates back 20 years. In 1973, with passage of the Solid Waste Management Services Act (C.G.S. Chapter 446e), maximum resources recovery, recycling, and reuse was established as state policy. The same legislation (P.A. 73-459) created a quasi public entity, the Connecticut Resources Recovery Authority (CRRA), to be responsible for developing and managing the state's waste disposal and recycling system in partnership with the private sector. The authority's role and responsibilities concerning Connecticut municipal solid waste are described more fully below.

Waste Management Roles

Responsibility for managing municipal solid waste rests primarily with state and local governments, although the federal government and the private sector also play important roles. The federal role is essentially regulatory in terms of setting and enforcing operating standards (e.g., liners and covers for landfills, etc.) and pollution control requirements (e.g., air emission limits, ground water protection measures, etc.) that apply to waste disposal facilities. In the past, some federal financial and technical assistance also was provided to encourage development of state solid waste management plans.

The key federal solid waste management legislation is the Resource Conservation and Recovery Act (RCRA). One RCRA provision that is having a significant impact on waste management methods in Connecticut and other states requires that landfills meet stricter environmental protection standards or close by October 1, 1993 (or in some cases, April 1994). A number of landfills, particularly those owned by municipalities, are planning to close rather than institute costly improvements and operating procedures required by RCRA.

Federal policy established under the Public Utility Regulatory Policy Act (PURPA), also has an impact on municipal solid waste management by promoting resource recovery. Adopted in 1978 partly as a means of decreasing dependence on foreign oil, the act was intended to encourage the use of cogeneration and renewable resources such as wind, solar, hydro, and biomass (e.g., solid waste), to produce electric power. Under PURPA, utilities are required to purchase the power produced by facilities that use renewable resources including waste-to-energy plants.

In contrast to the federal level, state and local governments have direct roles in managing solid waste. Usually state agencies plan and regulate while cities, towns, or even counties actually provide garbage collection, transportation, disposal, and recycling services, directly or through contracts with private companies. In Connecticut, primary responsibility for managing

municipal solid waste is divided among towns, the state environmental protection agency, and a quasi public resources recovery authority. A number of businesses ranging from trash haulers and scrap metal dealers to resources recovery plant operators also carry out important waste management activities. The roles of governmental entities as well as the private sector in Connecticut are described in more detail below.

Towns. By statute, municipalities in Connecticut are responsible for making provisions for the safe and sanitary disposal of all solid wastes generated within their boundaries (C.G.S. Sec. 22a-220). Towns are not required to provide any waste management services although many do. The range of services provided varies by municipality. In some communities, trash is collected and transported by municipal employees and then disposed of in a local landfill or incinerator. Others towns provide no services; residents must arrange and pay for disposal services with a private refuse hauler.

State law permits towns to contract with other municipalities or municipal authorities, regional entities, CRRA, non profit organizations, or private contractors to provide any or all of the following functions: collection, transportation, separation, volume reduction, processing, storage or disposal. Contracts that involve services for local waste provided outside of a town's boundaries are subject to review and approval by the state environmental protection commissioner. Only contracts that conform to recognized public health and safety standards can be approved. In addition, the commissioner must ensure the contract is with a currently permitted facility that has the capacity necessary to accommodate the terms of the town's contract.

Municipalities can designate where the waste generated by residences, businesses, and commercial or other establishments within their boundaries will be disposed of and can adopt ordinances to enforce such provisions. Similarly, municipalities can direct and enforce where mandatory recycling items taken from local residences will be taken for processing or sale. To enable towns to better enforce what are known as "flow control" ordinances, state law requires waste haulers, before operating within a community, to register with that town and to disclose where else they operate.

Flow control provisions, instituted to protect human health and the environment from illegal or improper waste management, are also intended to promote the efficient use and development of waste management capacity. In addition, they are considered essential to the achievement of recycling and reduction goals. The ability to direct haulers to take garbage to a particular destination is especially important to communities under contract to disposal facilities to deliver a certain tonnage of waste or risk financial penalty.

Depending on the outcome of a pending U.S. Supreme Court case, however, local flow control ordinances may be found unconstitutional. The court is expected to decide within the next few months whether a Clarkstown, New York ordinance requiring haulers to dispose of all garbage at a local facility regardless of where the waste is generated is an unconstitutional infringement on interstate commerce.

Department of Environmental Protection. Responsibility for protecting the public health and environment from the adverse effects of improper solid waste management rests with Connecticut's environmental protection department. Its major duties include planning to meet state waste management needs, permitting solid waste facilities, and enforcing waste management laws and regulations. In addition to its regulatory role, DEP provides technical assistance to towns and administers various state grant programs related to solid waste management.

The department was required to develop and must biennially update a statewide solid waste management plan that establishes specific goals and priorities for managing solid waste. Solid waste management activities undertaken by any person, town, or regional authority must be consistent with the adopted state plan. DEP, however, has no authority either through the plan or by statute to direct where or how municipalities dispose of their solid waste (unless state law or regulation is violated).

Since 1989, DEP has been required to carry out a certificate-of-need program regarding resources recovery as well as composting facilities, and disposal areas for the ash residue from waste-to-energy plants. Under C.G.S. Section 221-208d, no permits may be issued to construct or expand a facility or area unless the commissioner makes a determination in writing that it is necessary to meet the state's solid waste disposal needs and will not result in substantial excess capacity.

Connecticut Resources Recovery Authority. The Connecticut Resources Recovery Authority has a key role in implementing the state solid waste management plan. As stated in its 1992 annual report, the authority's "...statutory mission is to develop Connecticut's waste disposal and recycling infrastructure in partnership with private industry, by utilizing technologies and methods that recover the maximum amount of energy and material value from what is discarded." The creation of CRRA in 1973 was based on a belief that resources recovery projects and related services could be developed more quickly and with greater flexibility by an independent, quasi public organization authorized to issue special revenue bonds, than through a bureaucratic state agency structure. Original sponsors also argued that an integrated resources recovery system, which was advocated as the answer to the state's landfill crisis at the time, would be promoted by centralizing development responsibility and authority in a single entity with statewide jurisdiction.

In developing resources recovery and recycling facilities, the authority is authorized to work with municipalities and with private enterprise. In fact, CRRA's enabling legislation calls for using private industry "...to the maximum extent feasible to perform planning, design, management, construction, operation, manufacturing, and marketing functions related to solid waste disposal and resources recovery...." (C.G.S. Sec. 22a-259).

To ensure CRRA's activities are consistent with the state solid waste management plan, the authority's annual plan of operations must be approved by the environmental protection commissioner. Authority facilities, which include four resources recovery plants, two regional recycling centers, several landfills, and a number of transfer stations, must comply with all

relevant state laws and regulations. At one time, the DEP commissioner was a member of the authority's board of directors. Recognizing the potential for conflicts of interest for the regulator of CRRA, the legislature removed the environmental protection commissioner from the authority's board in 1989 (P.A. 89-386).

Authority facilities are required to be financially self-sufficient. By law, CRRA services and operations are to produce "...revenues sufficient to provide for the support of the authority and its operations on a self-sustaining basis, with due allowance for the redistribution of any surplus revenues to reduce the costs of authority services to the users thereof...." (C.G.S. Sec. 22a-262).

Municipal resource recovery authorities. In 1981, the legislature authorized municipalities to establish municipal resource recovery authorities with powers and duties that mirror those of CRRA. Several have formed, but to date only one (Bristol Resource Recovery Facility Operating Committee) has developed and now oversees operation of a resources recovery facility independent of any CRRA involvement. Another, the Southeastern Connecticut Regional Resource Recovery Authority (SCRRRA) worked with CRRA to develop the waste-to-energy plant located in Preston and shares responsibility with CRRA for overseeing its operation.

Private sector. In Connecticut, commercial enterprises are involved in the full range of solid waste management services. Private haulers are responsible for collecting and transporting a significant amount of the state's waste stream. Much of the state's recycling effort is carried out by the private sector; private contractors operate a number of the state's intermediate processing centers (IPCs) for regional recycling programs and many companies such as scrap metal and bulk paper dealers handle a variety of materials for reuse. Private firms have been involved in the design and development of all resources recovery plants and are under contract to operate five facilities at present.

Other state agencies. Two additional state government entities--the Department of Public Utility Control, the state's utility rate regulation agency, and the Connecticut Siting Council--are indirectly involved in the management of MSW in Connecticut. Power purchase agreements between utility companies and resource recovery plants are subject to review and approval by the public utility control agency. As power producing facilities, resources recovery plants also are subject to the siting council's certification process. Before constructing or substantially modifying a facility, developers must obtain a certificate of environmental compatibility and public need from the council.

CHAPTER II
CONNECTICUT'S WASTE MANAGEMENT SYSTEM

Connecticut towns provide for the management of their municipal solid waste in a variety of ways. The state's solid waste management system currently consists of waste-to-energy plants, municipal incinerators, public and private landfills, and a variety of recycling centers and facilities, both commercial and nonprofit. Most cities and towns, however, rely on resources recovery facilities for disposal services.

During 1993, just over 100 Connecticut communities were permanent members of one of six resources recovery projects in the state, receiving services under long-term contracts (typically 20 to 25 years). Total membership declined to 92 municipalities when one project, the Windham Energy Recovery Facility (WERF), whose members included 9 eastern Connecticut towns, closed its facility mid-year.[1] Many WERF members became short-term customers of other waste-to-energy plants. Throughout 1993, approximately 40 communities were delivering waste to resources recovery projects not as members but under service agreements with a facility, usually for a term of 5 or 10 years.

Nearly one-fifth of Connecticut's municipalities (37) were still relying on landfills for disposal of their waste as of July 1993. However, the majority of landfills in the state closed by October 1993, when stricter federal environmental standards went into effect. A few landfills eligible for a deadline extension to April 1994 expect to continue operations until that time. In the future, DEP anticipates only three towns will be served long-term by local landfills (i.e., Manchester, Windsor, and Bloomfield). At the time of the committee's review, some former landfill users had signed short-term contracts with existing or planned waste-to-energy projects while others were using resources recovery facilities on an hoc or pure "spot market" basis.

A map included as Appendix B shows which towns were members of resources recovery projects as well as those with short-term service agreements with the facilities as of November 1993. Except for Stamford and New Canaan, the municipalities shown in the map as uncommitted to a waste-to-energy plant either were using landfills or were "spot market" customers of resources recovery projects .

Both Stamford and New Canaan were disposing of their solid waste in local incinerators at the time of the committee's review. Stricter emission standards that will go into effect during 1994 under the federal "Clean Air Act" are expected to result in the closure of at least the Stamford incinerator. As Appendix B indicates, the city of Stamford was considering a number of disposal alternatives including some out-of-state options.

---

[1] Member towns of the Windham Energy Recovery Facility were: Ashford; Bolton; Eastford; Franklin; Hebron; Mansfield; Tolland; Union; and Windham.

RESOURCES RECOVERY PROJECTS

Resources recovery is the primary solid waste disposal method in Connecticut. It is estimated that waste-to-energy facilities handle about 70 percent of the garbage generated in the state. As noted above, five plants were operating in Connecticut at the end of 1993. Four were developed by CRRA while one, Bristol Resource Recovery Facility, was a municipal venture. The state's first resources recovery facility, which the city of Windham started in 1981, closed July 1993. A new facility to be located in the town of Lisbon is being developed by Wheelabrator, Inc., a large waste management firm that is also the parent company of the contractor operating CRRA's Bridgeport plant.

Information about the state's existing resources recovery projects--Mid-Connecticut, Bridgeport, Wallingford, Southeast, and Bristol--is summarized in Table II-1. As the table indicates, the facilities, even the four owned by CRRA, differ in many ways, from their sizes and service areas to their operational arrangements and contract structures. However, all but Mid-Connecticut, which is an RDF facility, use mass burn technology.

Technology, operating decisions, and contractual arrangement are some of the factors that can influence a facility's tip fees. For example, how much energy a plant produces and its reliability has a direct effect on its revenues. If revenues from electrical sales drop, fees for disposal services may have to be increased to cover operating costs. Operating costs, which are the basis for tip fees, will vary among projects depending on a number of items such as the range of services provided (e.g., transfer stations, recycling collection and processing, etc.) or ash disposal arrangements. The relationship between these and other structural factors to tipping fees is discussed in more detail in the following chapter.

Information on the amount of waste processed by the four CRRA resource recovery facilities is presented in Figure II-1. The figure shows how the total amount of municipal solid waste processed at authority plants has increased each year, due in part to the addition of new facilities over this time period. However, as discussed below, CRRA and other resource recovery facility owners note that waste deliveries from members actually have declined, prompting the facilities to rely more heavily on waste from other sources, the "spot market," to maintain efficient operating levels.

Capacity concerns. Demand for solid waste disposal services is not unlike the demand for electricity, which has peaks related to seasonal usage and varies with economic conditions. As a result, the capacity of waste-to-energy plants is designed to handle the peak demand of steady customers. At non peak times, therefore, capacity is available for waste from other sources that is delivered under short term agreements or even on a day-to-day basis.

There are several incentives for facility operators to fill all available capacity. For economic reasons, plant operators want to ensure maximum power production since energy sales are significant revenue source. Disposal fees for spot waste deliveries also add to plant

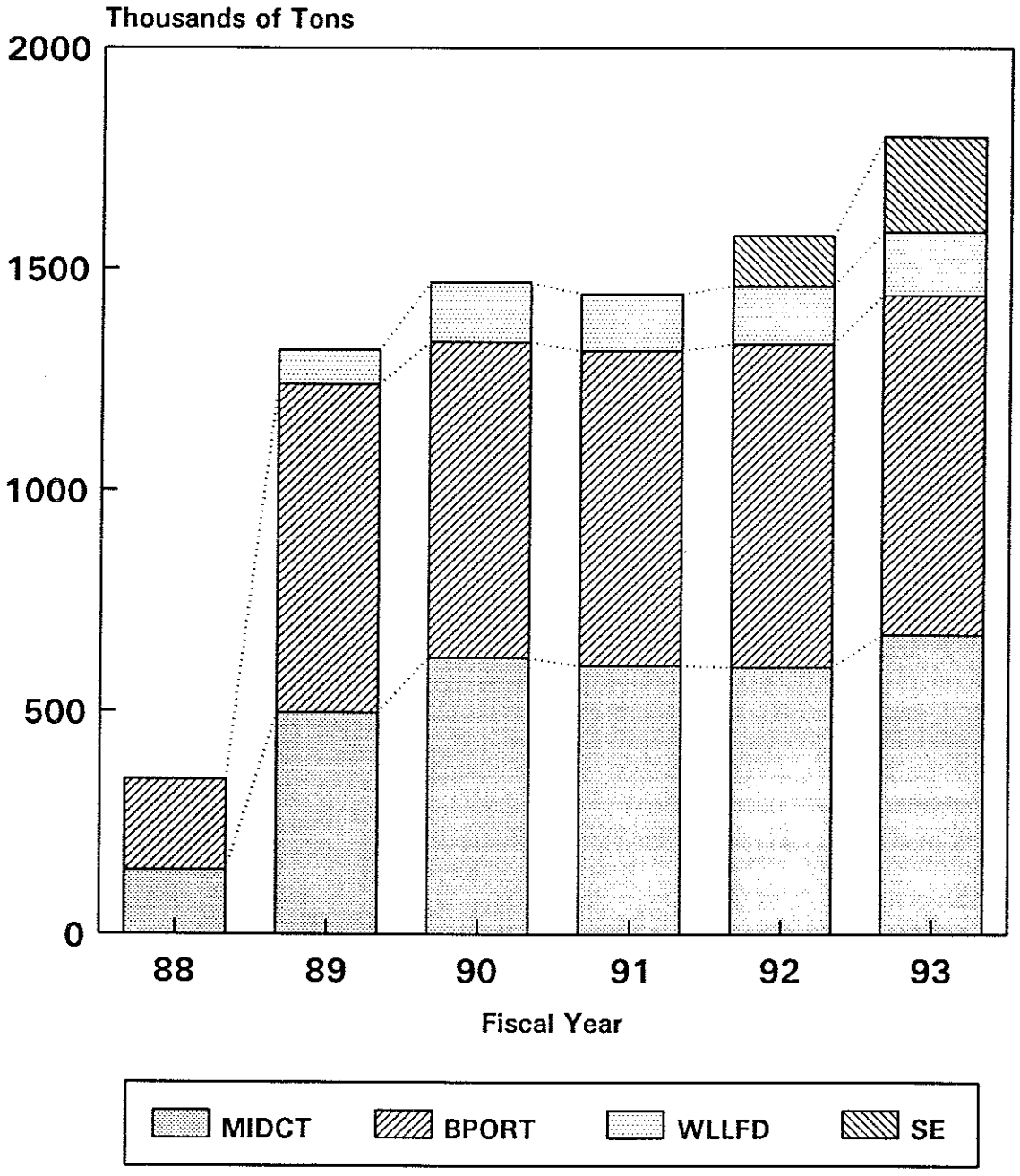
TABLE II-1. PROFILE OF RESOURCES RECOVERY PROJECTS IN CONNECTICUT

	BRIDGEPORT	MID-CT (HARTFORD)	WALLINGFORD	SOUTHEAST (PRESTON)	BRISTOL
DATE OPENED FOR COMMERCIAL OPERATION	7/88	10/88	5/89	2/92	5/88
NO. TOWNS SERVED (UNDER CONTRACT) AS OF NOV. 1993	18 members (14 original + 4 added)	44 members + 16 SA	5 members	11 members + 2 long term & 6 short term SA	14 members (8 original + 6 added)
OWNER	Bridgeport Resco, Inc. (subsidiary of Wheelabrator)	CRRA	CRRA & Ogden Martin	CRRA & Am. Ref-fuel Co.	Ogden Martin of Bristol
OPERATOR	Bridgeport Resco, Inc.	MDC & Resource Recovery Systems (Ogden subsidiary)	Ogden Projects of Wallingford	Am. Ref-fuel Co.	Ogden Martin of Bristol
AUTHORITY/ADVISORY GROUP (LOCAL)	Greater Bridgeport Solid Waste Advisory (Interlocal) Comm.	Ad hoc advisory board	Wallingford Policy Board	Southeast Conn. Regional RR Authority (SCRRRA)	Bristol RR Facility Operating Comm. (BRRFOC)
NO. TRANSFER STATIONS (PROJECT OWNED)	8	4	0	0	
THROUGHPUT DESIGN: TONS PER DAY (TPD)	2,250	2,000	420	600	650
ENERGY GENERATED & PURCHASER: FY 92	(Revenues from energy sales to U.I. retained by facility operator)	48.86 MW Electric: CL&P	3.18 MW Electric: CL&P 246,981 Klbs. Steam: Cytec	6.21 MW Electric (12/91 - 6/92): CL&P	16 MW Electric: CL&P
RECYCLING FACILITIES: OPERATOR(S)	Paper & Container: Fairfield County Recyling (FCR)	Paper: Capital Recycling Container: Resource Recycling Tech.	(not part of project; varies by member town)	(not part of project; member towns belong to SE CT Regional Recycling)	ARCI, Inc. operates under contract to Tunxis Recycling Operating Comm.
ASH DISPOSAL ARRANGEMENT	Shelton LF (CRRA owns)	Hartford LF (CRRA leases)	Wallingford LF (CRRA leases)	Out-of-state now/ SCRRRA constructing ash LF in Montville	Bristol LF (BRRFOC leases)

SA = service agreement

Sources of Data: CRRA; State of Connecticut Adopted Solid Waste Management Plan, February 1991; BRRFOC.

Figure II-1. MSW Processed at CRRA Projects, FY 88 - FY 93



Source of Data: CRRA

revenues. Running at capacity is desirable for environmental reasons as well, since plants are "cleaner" when operated continuously.

Trends in spot waste deliveries at CRRA facilities over the past five years are shown in Figure II-2. As the figure indicates, the amount of garbage received from member towns has been decreasing; to counter that decline, CRRA facilities have accepted more spot deliveries.

The drop in member waste deliveries is attributed to both the impact of mandatory recycling and the state's economic downturn. A recent study conducted by the director of the Bristol Resource Recovery Facility Operating Committee concluded that about 70 percent of the decline in tonnage deliveries experienced at that project could be attributed to residential and commercial recycling while about 30 percent was due to the recession.[2]

Low levels of contracted waste have implications for member towns as well as project operators. Most resources recovery project contracts contain "put-or-pay" provisions--if a member community fails to deliver its guaranteed amount of waste, it still has the financial obligation for its minimum commitment level and may be subject to penalties. Several communities are in the position of failing to deliver their minimum commitment, amounts although no penalties have been imposed, to date. It has been suggested that original commitment amounts be reexamined since many were based on rough estimates of waste generation before recycling was implemented. Others believe declining member deliveries indicate flow control problems and support stronger enforcement efforts.

Spot market fees. The smaller supply of municipal solid waste in the state has increased competition for the spot market, thus lowering the tip fees charged for spot waste. Spot market fees have also been influenced by declining landfill prices. Some landfills that are planning to close when the new federal standards go into effect have lowered their tip fees significantly in order to attract as much waste as possible before they shut down.

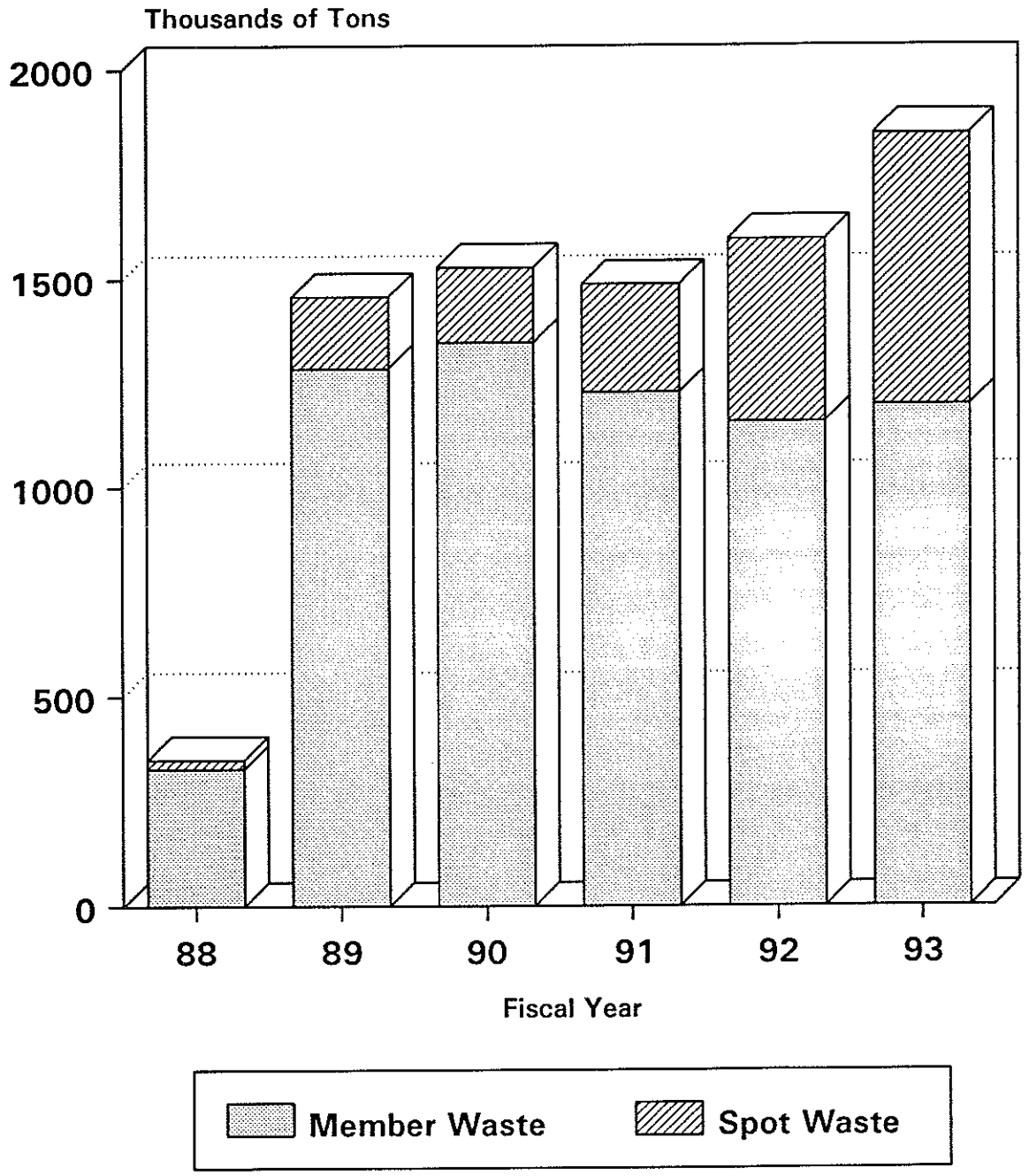
Due to present market conditions, rates charged for spot waste are substantially less than the tip fees most resources recovery project members pay. For example, while member tip fees for FY 94 are $51 for the Mid-Connecticut facility, spot fees currently range from $32 to $34. At the Southeast plant, spot prices average $40 in contrast to member fees of $98. CRRA staff note that only two or three years ago, the situation was reversed; spot prices were significantly more than member tip fees.

The disparity in member and spot market fees has a number of implications for the state waste management system. Low spot prices create a disincentive for towns to become members

---

[2] Bilmes, Jonathan S., *Impact of the Recession and Recycling on Solid Waste Processing Facilities in New England*, reprinted from Proceedings of National Waste Processing Conference by the American Society of Mechanical Engineers, 1992.

Figure II-2. CRRA Project Waste Deliveries by Type: FY 88 - FY 93



Source of Data: CRRA

of a resources recovery project. They can also be an incentive for haulers to disregard flow control ordinances and deliver waste to whichever waste management facility is cheapest (also known as the "gypsy waste" problem).

Another concern related to the current spot market situations is the matter of out-of-state waste. A significant portion of the spot waste delivered to CRRA facilities during FY 93 was from sources outside of Connecticut. Based on information supplied by the authority, about one-half (51 percent) of the almost 651,000 tons of spot waste delivered to CRRA facilities in FY 93 came from generators located outside of Connecticut.

Out-of-state spot waste accounted for 18 percent of the total tonnage (1,845,435 tons) of municipal solid waste delivered to all four authority projects in FY 93. Spot waste received from out-of-state sources as a percentage of total tonnage delivered last fiscal year varied as follows among CRRA facilities: Mid-Connecticut, 19 percent; Wallingford, 1 percent; Bridgeport, 24 percent; and Southeast, 6 percent.

Some predict out-of-state waste deliveries will decline in FY 94 as many Connecticut towns that were using landfills have recently contracted with resources recovery plants for disposal services. However, the fact that out-of-state garbage can be processed (and the resulting residue disposed of in Connecticut ash landfills) at prices lower than what resources recovery project members pay has prompted some town officials to question the fairness of current fee structures and solid waste management policies.

CRRA Organization and Activities

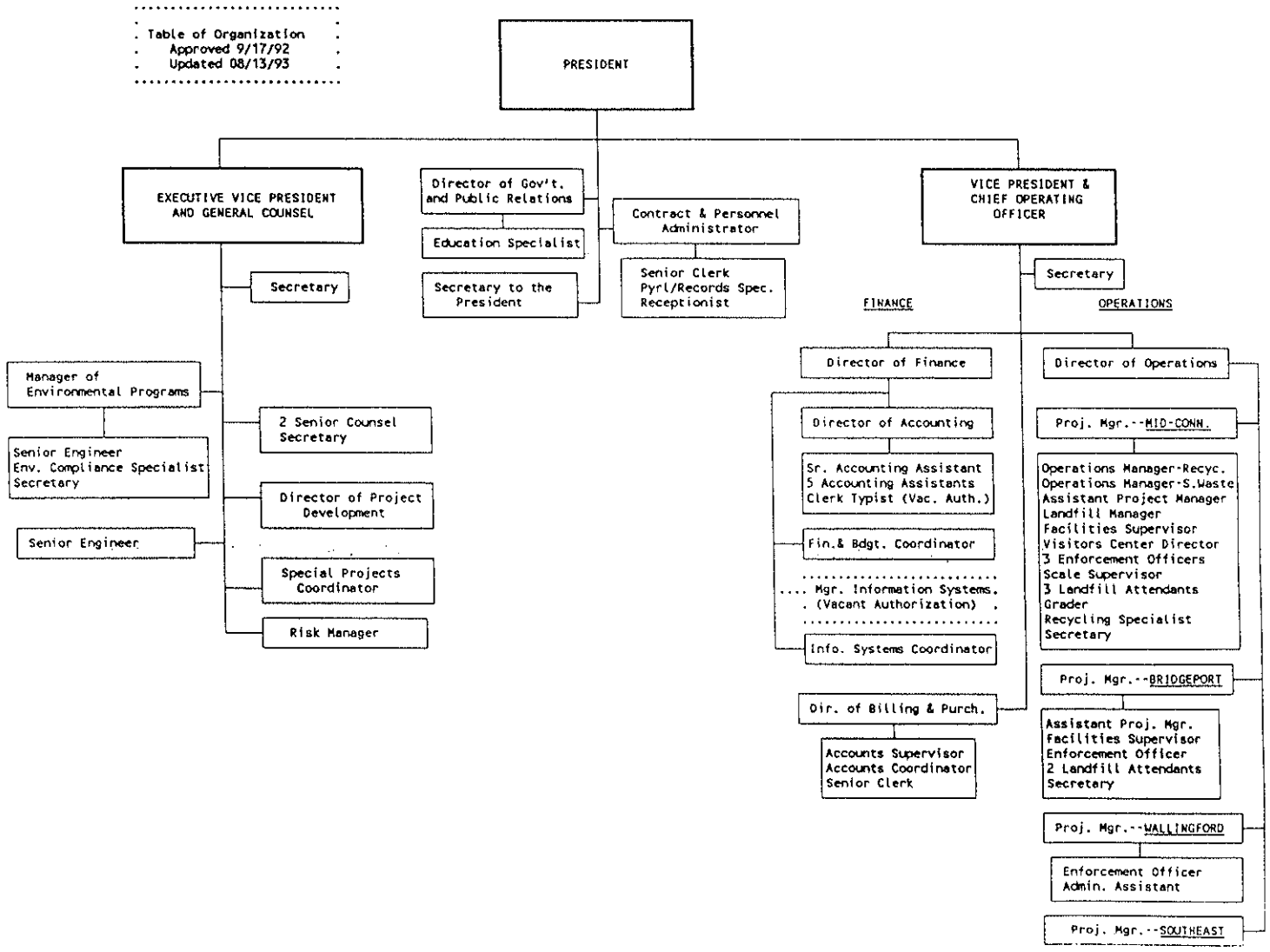
As discussed earlier, the Connecticut Resources Recovery Authority is a major provider of municipal solid waste management services in the state. The authority estimated its facilities handled 60 percent of the waste generated in the Connecticut in FY 93.

The current organization of CRRA is shown in Figure II-3. By law, the authority is limited to a maximum of 70 employees; its 1993 staffing level was 65 positions. The agency is headed by a president who is statutorily responsible "...supervising the administrative affairs and technical activities of the authority in accordance with the directives of its board of directors."

The authority's 13-member board of directors includes: the commissioners of transportation and economic development and the secretary of policy and management; four gubernatorial appointees; and six legislative appointees.[3] Two of the legislative appointments are made by the president pro tempore of the Senate, two by the speaker of the House, and one each by the minority leaders of each chamber.

[3] Public Act 93-423 abolished the Solid Waste Management Advisory Council and eliminated its chairperson as a CRRA board member effective October 1, 1993.

FIGURE II-3. CONNECTICUT RESOURCES RECOVERY AUTHORITY ORGANIZATION



Source: CRRA

Of the four members appointed by the governor, two must be chief officials (first selectman, mayor, or manager) from Connecticut municipalities--one from a community with a population of less than 50,000 and one from a community with a population over 50,000. The two other gubernatorial appointees must be public members "...with extensive high-level experience in municipal or corporate finance or business or industry...."

The CRRA board of directors also includes ad hoc members who represent municipalities where resources recovery facilities are either proposed and under active consideration or actually sited. Ad hoc members, who are appointed by the governor, must be electors from communities served by the facilities and can vote only on issues related to their particular facility.

The chairman of the board is appointed by the governor with the approval of the legislature. The chairman is responsible for appointing the authority president subject to board approval. The board meets monthly to receive staff reports and take formal action on policy and financial matters as needed.

CRRA budget. The authority's operating budget for all projects in FY 94 was $159.9 million. The information on expenditures presented in Figure II-4 reveals that nearly 80 percent of the total year's costs were related to waste processing facility (WPF) operations (e.g., contractor fees to run the plants, related payments in lieu of taxes, insurance, etc.) or the debt service associated with authority projects. Operations of other facilities (e.g., landfills, transfer stations, and recycling centers) made up another 17 percent of total FY 94 expenses while administrative costs account for 4 percent of the total CRRA operating budget.

Revenue sources for the authority operations in FY 94 are shown in Figure II-5. These include income from service charges (e.g., tip fees) and energy sales, the two primary revenue sources, as well as proceeds from landfill and recycling operations, and interest income.

The total annual operating budgets for each authority project in FY 94 were, from smallest to largest: Wallingford, $15.6 million; Southeast, $25.9 million; Bridgeport, $39.0 million; and Mid-Connecticut, $79.5 million. Operating costs and revenues for each CRRA project and the non CRRA Bristol facility are described in greater detail in the following chapter on fees.

The authority's administrative overhead expenses are accounted for in a general fund. These costs are allocated to the authority projects based on staff hours spent on each. The resulting amounts are then transferred to the appropriate project budget. Trends in the general fund and in the overall CRRA budget (general fund plus project operating budgets) over the past five years are shown in Figure II-6.

CRRA FY 94 Budget, All Projects
Total $159,904,297

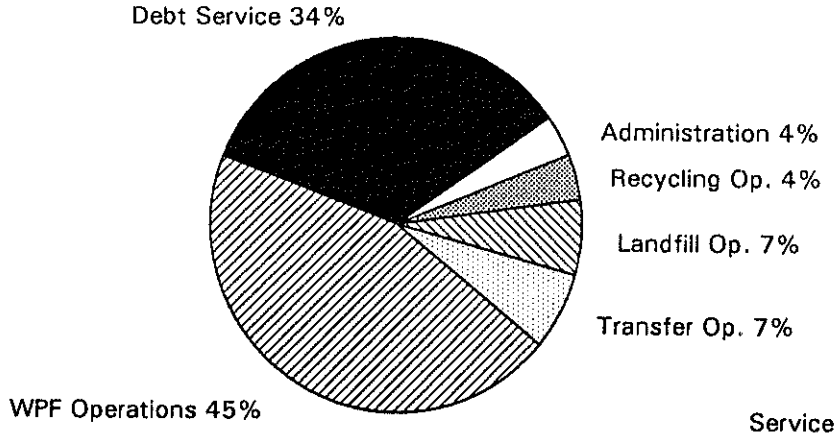


Figure II-4. CRRA FY 94
Operating Budget Expenses

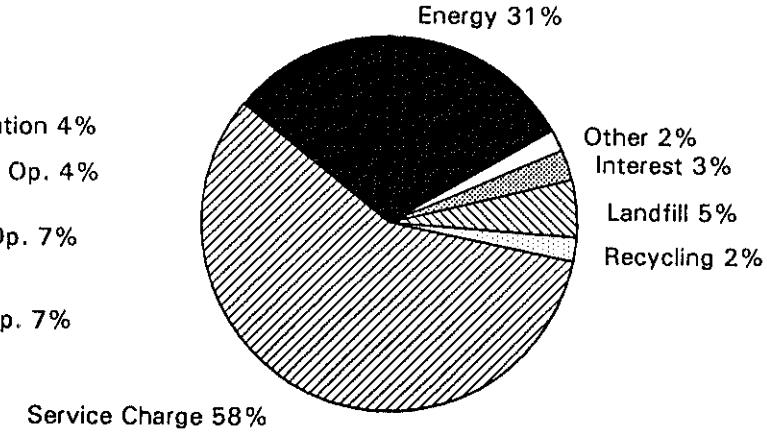
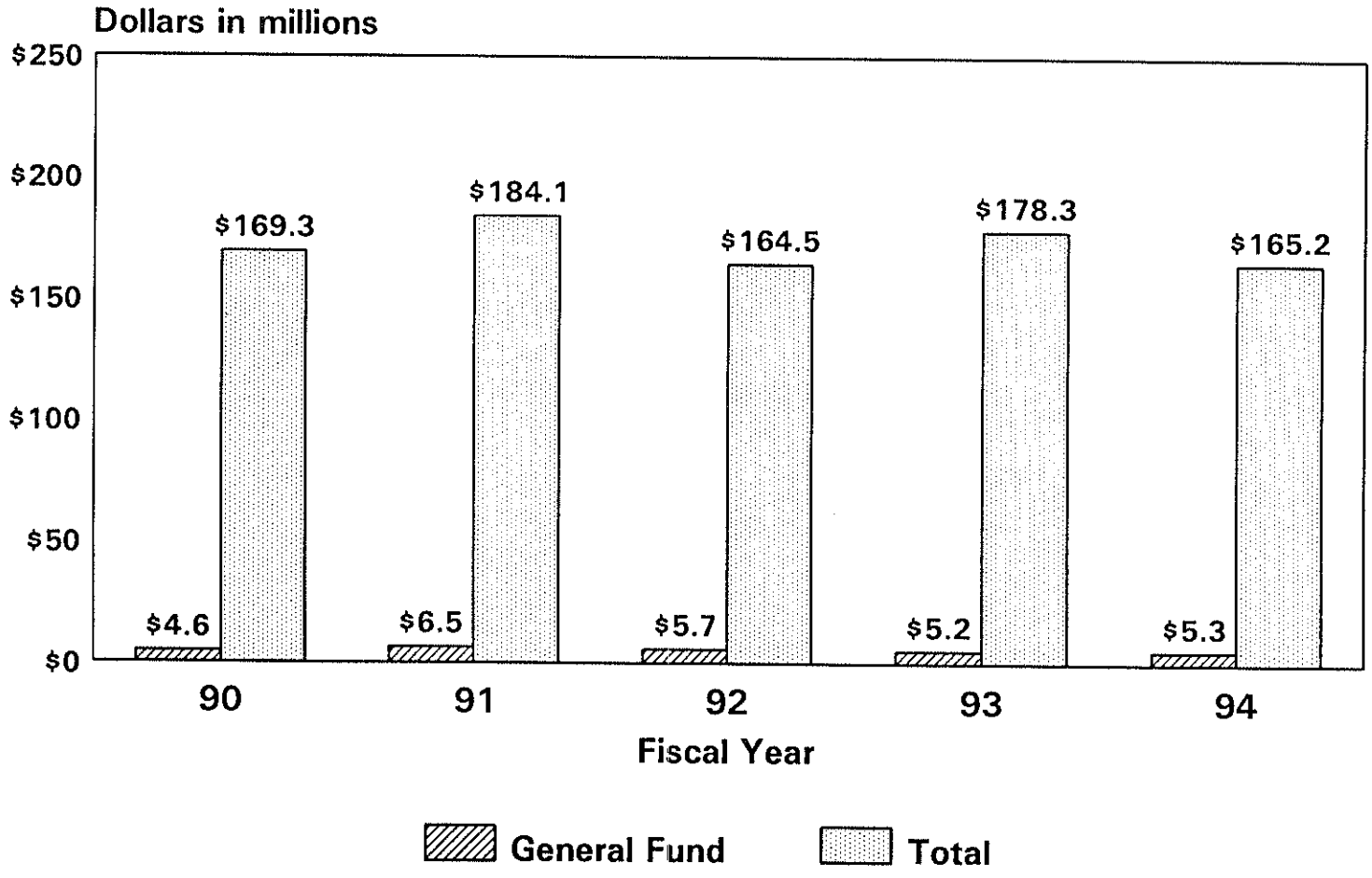


Figure II-5. CRRA FY 94
Operating Budget Revenues

Source of Data: CRRA

Figure II-6. CRRA Budget: Total and General Fund, FY 90 - FY 94



Source of Data: CRRA

Breakdowns of the FY 94 general fund budget by project allocation and by major expense category are shown in Figures II-7 and II-8. Based on the information presented in Figure II-7, the Mid-Connecticut project accounts for more than half of the authority's general fund expenses. As Figure II-8 shows, the category "personal," which include salaries and benefits of authority staff, is the largest general fund budget item.

Fee setting process. A significant annual activity for CRRA is developing and setting project operating budgets and member fees. Each project's fees are based on its operating costs and are determined each year according to provisions established in contracts with member towns.

The process begins with authority staff, primarily the project manager and financial director, who prepare a draft budget and proposed tip fee for each project. These are reviewed internally by the CRRA vice-president and president and then sent to the local project organizations for action.

Each local group's authority regarding fees varies, as Table II-2 indicates. Depending on member town contracts, local roles range from informal review to formal approval. Whatever action is taken by the local group is reported to the CRRA board.

Table II-2. CRRA Project Local Entity Budget/Fee Roles

Project	Local Entity	Budget/Fee Authority
Mid-Conn.	Informal advisory group of member town reps.created by CRRA (not required by any contract provisions)	Advisory
Bridgeport	Advisory group of member town reps. established through contract provisions	Advisory
Wallingford	Policy board comprised of 1 rep. from each member town; established through contract provisions	Advisory unless proposed budget includes use of project's special fee stabilization fund; formal vote to approve use of special fund required
Southeast	Statutory regional resources recovery authority comprised of rep. from each member town; budget/fee authority established through contract provisions	Formal approval; vote to adopt budget submitted by CRRA and by vote set member fees

Source: LPR&IC Staff analysis

CRRA General Fund Budget FY 94
Total $5,300,000

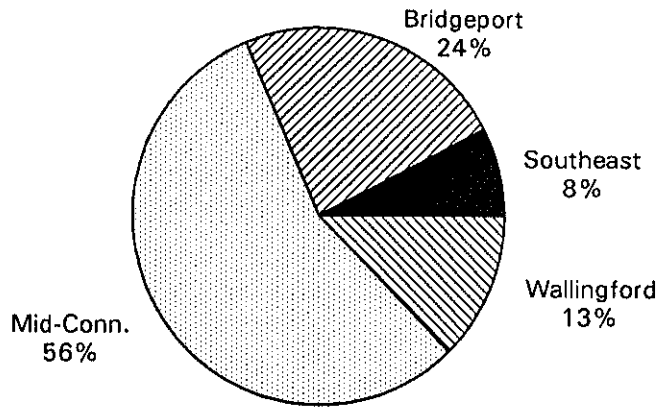


Figure II-7. CRRA General Fund by Project Allocation, FY 94

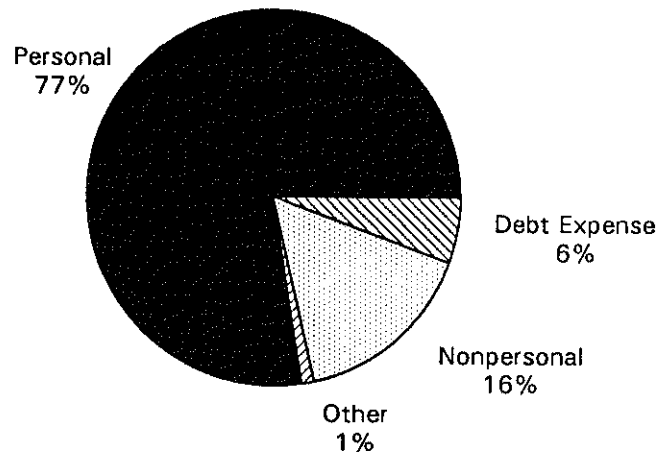


Figure II-8. CRRA General Fund by Expense Category, FY 94

Source of Data: CRRA

Next, a series of workshop meetings are held between CRRA staff and the local groups or any subcommittees they may establish for budget review purposes. The purpose of these meetings is to review project finances in detail and prepare a final budget for approval by the board of directors. According to CRRA staff, usually two to three workshop meetings are held per project, depending on the number and complexity of issues involved.

The final draft is sent to the CRRA board's finance committee, and sometimes its planning committee, for review. The finance committee generally holds one or two meetings on each project budget as well as a workshop to which all board members are invited. During this time, the authority continues to receive local feedback.

The finance committee formally submits its recommendations for each project budget to the full board of directors. Project budgets and tip fees must be approved by a formal vote of the CRRA board. The Mid-Connecticut, Bridgeport, and Wallingford projects are voted at the board's February meeting while the Southeast project, which is on a different budget cycle, is voted on at the November or December meeting.

According to CRRA staff, local groups have approved all proposed budgets prior to final action by the CRRA directors. Changes in draft budgets as the result of local concerns have occurred but, to date, have been minor.

The process outlined above applies to long-term member fees. Fees that will be charged new project members as well as for rates for spot waste services are established in different ways, depending on the project. For example, tip fees for new members of the Mid-Connecticut and Bridgeport projects, along with other terms (e.g., length of contract, services provided, etc.) are determined by the CRRA board in consultation with authority staff, subject to approval of the local legislative body of the member towns. No new members have joined the other projects at this time, but in the case of the Southeast facility, the local authority would have a formal role in whatever fee-setting process is developed.

Prices charged for spot waste deliveries are determined by market conditions for the most part. Who sets the spot rate varies by project depending on the contract with the operator. At Mid-Connecticut, CRRA controls spot capacity and bases rates for short-term services (under one year) on market conditions. In contrast, the operator of the Bridgeport facility controls spot waste capacity and sets the fees. Arrangements are more complex at the Southeast project, where member towns and CRRA have the "first rights" to bring in waste to fill facility capacity at market rates; the fee produced from waste brought in by member towns or CRRA are for the benefit of member towns. Revenue derived from spot waste brought in by the facility operator is shared by the operator and CRRA in accordance with a contractually established formula.

CHAPTER III
FEES FOR MUNICIPAL SOLID WASTE MANAGEMENT SERVICES

The charge to dispose of municipal solid waste is often expressed as an amount per ton called a tipping fee. Tip fees vary by disposal method, with landfilling typically the least expensive method. This is due to the generally lower operating costs of landfills compared with other waste management facilities, particularly modern waste-to-energy plants. Costs for solid waste services also vary by region and additionally appear related to the use of environmental protection features by waste management facilities.

State or local solid waste management policies can have an impact on tipping fees as well. For example, a jurisdiction may impose a surcharge on landfill fees to discourage that disposal method or decide to subsidize fees at recycling centers to encourage participation.

Economic regulation also can influence solid waste management costs, although it appears tip fees are regulated in only one state at present. In New Jersey, rates of resources recovery plants and landfills are regulated like those of public utilities. In addition, the public utility regulatory agency in that state monitors solid waste service contracts after they are adopted to ensure all provisions are followed.

Comparative information compiled on municipal solid waste management costs and tipping fees is limited. Most trend data that are available concern regional differences in landfill fees. This information, presented in Table III-1, shows that landfill tip fees were significantly higher in the northeast than other regions of the county in 1990 and 1988. Higher fees are believed to be due, in part, to the region's limited amount of landfill capacity and to the substantial level of environmental protection features required by northeastern states.

In general, municipal solid waste management costs seem to be higher in Connecticut and other northeastern states than in other jurisdictions. State or regional comparisons of any solid waste management fees, however, must be made carefully as differences can be due to any of the factors noted above. Also, tip fees for the same disposal method may cover different levels of service. For example, a landfill tip fee in one area may include the costs of collecting and transporting the garbage, while in another it is just a disposal charge. In some cases, the costs of collecting and processing recyclables is included in a tip fee while in other situations a separate charge is imposed.

The following discussion outlines how resources recovery tip fees are derived generally and for Connecticut facilities. Information on fees paid by members of Connecticut waste-to-energy projects is presented and compared, both among in-state facilities and to user charges in other regions. Factors that influence resources recovery project costs and revenues are identified and the main reasons for variation in tip fees are described.

Table III-1. U.S. Landfill Tip Fees by Region
(Dollars/Ton)

REGION	1990 MINIMUM	1990 MAXIMUM	1990 AVERAGE	1988 AVERAGE
Northeast	$12.00	$120.00	$64.76	$61.11
Mid-Atlantic	$6.00	$89.00	$40.75	$33.84
South	$5.25	$40.00	$16.92	$16.46
Midwest	$5.65	$50.00	$23.15	$17.70
W. Central	$8.88	$13.50	$11.06	$8.50
S. Central	$6.75	$26.25	$12.50	$11.28
West	$14.75	$55.00	$26.63	$19.45
NATIONAL	$5.25	$120.00	$26.56	$22.64

Source of Data: National Solid Wastes Management Association 1990 Landfill Tipping Fee Survey

Resources Recovery Tip Fees

The major influences on resources recovery tip fees are: competition from other waste management facilities; energy prices; and plant operating expenses. Operating costs reflect many variables ranging from project financing costs to ash disposal charges. As noted above, waste-to-energy disposal prices may additionally reflect government efforts to encourage waste reduction and recycling. Variation in any one of these factors or, more commonly, a combination of them can contribute to differences in facility tip fees.

The most recent available comparative data on waste-to-energy tip fees are presented in Table III- 2. The regional information included in the table was compiled by a private research and consulting firm--Governmental Advisory Associates, Inc.--based on its surveys of 248 waste-to-energy plants across the United States. As plant technology has an impact on operating costs, and, therefore, tip fees, national averages are shown overall and by type of facility (i.e., mass burn, modular, RDF). From Table III-2 it can be seen that the tipping fees of Connecticut facilities were comparable to averages for the northeast region and higher in most cases than those in other areas of the country in FY 92.

Table III-2. FY 92 Waste-To-Energy Plant Average Tipping Fees (Dollars Per Ton) by Region and Technology and Compared to Connecticut Facilities

REGION	TECHNOLOGY			
	MASS BURN	MODULAR	RDF	ALL TYPES
NORTHEAST	$71.06 (41)	$63.19 (9)	$45.43 (7)	$66.67 (57)
SOUTH	$45.99 (20)	$34.91 (15)	$46.63 (9)	$45.41 (57)
NORTHCENTRAL	$52.93 (8)	$50.39 (10)	$56.16 (13)	$53.46 (31)
WEST	$53.65 (11)	$105.31 (3)	$46.50 (2)	$62.45 (16)
ALL REGIONS	$60.59 (80)	$55.33 (37)	$50.35 (31)	$57.12 (148)
CONNECTICUT	$65.50 (Bridgeport) $46.25 (Bristol) $65.00 (Southeast)	$67.00 (Wallingford)	$48.00 (Mid-CT)	N/A

NOTE: Number in parentheses = number of facilities

Sources of Data: Government Advisory Associates; CRRA; BRRFOC.

Tip fees charged members of Connecticut resources recovery projects each year since FY 89 are shown in Table III-2. The range of services (e.g., collection, transportation, disposal, recycling) covered by these tip fees vary among the projects. For example, recycling and waste transportation costs are included in members fees in the Mid-Connecticut and Bridgeport projects. In contrast, only disposal costs are reflected in fees at Wallingford and Southeast as well as at the facility in Bristol. Direct comparisons of member tipping fees, therefore, are difficult due to these differences.

The tip fees shown in Table III-2 also reflect varying levels of state subsidization. All but one project in Connecticut (Southeast) received tip fee subsidies through a state grant program in effect between 1987 and 1990. Grant amounts are shown by project in Table III-3. Subsidies totaled more than one million dollars per project except in the case of the now defunct Windham facility. That facility, considered in some respects a pilot project, did receive other types of state assistance while in operation, however.

Table III-2. Member Tip Fees at Resources Recovery Facilities in Connecticut
FY 89 - FY 94

	FY89	FY90	Pct. Chg.	FY91	Pct. Chg.	FY92	Pct. Chg.	FY93	Pct. Chg.	FY94	Pct. Chg.
MID-CT	-	$45.00	-	$45.00	0%	$48.00	7%	$51.00	6%	$51.00	0%
BRIDGEPORT	$45.70	$53.00	16%	$61.00	15%	$65.50	7%	$69.00	5%	$72.00	4%
WALLINGFORD	-	$45.00	-	$49.00	9%	$67.00	37%	$71.00	6%	$73.00	3%
SOUTHEAST	-	-	-	-	-	-	-	$79.00	-	$98.00	24%
BRISTOL	$37.50	$41.00	9%	$43.00	5%	$46.25	8%	$50.00	8%	$55.00	10%

Sources of Data: CRRA and BRRFOC

Table III-3. State Grants Paid to Resources Recovery Project Towns From the Municipal Tipping Fee Fund*

PROJECT	GRANT AMOUNTS (Dollars in Millions)	
	FIRST YEAR	SECOND YEAR
Bridgeport	$5.560	-
Bristol	$1.815	$ 0.783
Mid-Connecticut	$5.740	-
Wallingford	$1.500	-
Windham (WERF)	$0.288	-

* Established under C.G.S. Sections 22a-219c through 22a-219e

Source of Data: Connecticut Department of Environmental Protection

Another difference among the Connecticut waste-to-energy projects that has an impact on tip fees is the price each facility is paid for the energy it produces. Power purchase agreements between the state's resources recovery plants and electric companies are summarized in Table III-4. Nearly all were negotiated during the mid-1980s and each one was subject to the review and approval of the Department of Public Utility Control.

As noted in an earlier chapter, federal law (PURPA) requires utility companies to purchase the power produced by resource recovery and certain other types of facilities at a price negotiated by the parties. The minimum purchase price, however, is set by federal regulation as the rate equal to the utility's avoided cost--the amount it would cost the utility to generate the power itself. Depending on how costs are calculated, the avoided cost rate can be very attractive to independent power producers. Furthermore, states are permitted under PURPA to enact laws that provide even greater incentives for plants using renewable energy sources to generate power.

Connecticut has enacted several such incentives including what is referred to as the municipal rate statute. Under this law, electric companies must, if so requested by towns, purchase the power produced by resources recovery plants owned, operated by, or for the benefit of, municipalities at the price the municipalities are charged for electricity. This price--the retail rate--is higher than avoided cost rates and essentially results in a subsidy of resource recovery tip fees by electric company customers. Connecticut utilities, in fact, believe this subsidy to be excessive and one company, Connecticut Light & Power (CL&P), is challenging

the legality of the municipal rate statute. The average price paid for electricity produced by resources recovery facilities in Connecticut is among the highest in the country as information provided in Appendix C shows.

Table III-4. Summary of Connecticut Waste-to-Energy Facility Power Purchase Agreements

PLANT	UTILITY	PLANT SIZE (in megawatts)	COST: CENTS PER KWH (1993)
Bristol	CL&P	13.2	8.30
Bridgeport	U.I.	62	8.00
Mid-CT	CL&P	63.71	8.50
Southeast	CL&P	13.85	10.02 (CL&P)* 3.66 (non-CL&P)*
Wallingford	CL&P	9.9	12.20 (on peak) 6.70 (off peak)

Note: KWH = kilowatt hour

* In accordance with a DPUC ruling, the municipal rate is paid only for waste from CL&P customers; the company's avoided rate is paid for all other waste

Source of Data: CRRA; BRRFOC; and DPUC.

Operating budgets. As tip fees are based on a facility's costs and revenues, budget information was examined in detail to determine similarities and difference among projects in Connecticut. Fiscal year 94 operating budgets for each of the four CRRA resources recovery projects are presented in Tables III-5 (revenue information) and III-6 (expense information). As the tables indicate, there are significant differences in the financial structure of each project. This is because projects developed at various times under different circumstances and in response to specific concerns of the member communities.

Table III-5. Budgeted Revenues by CRRA Project: FY 94 (Dollars in Millions)				
CATEGORY	MID-CONN.	BRIDGEPORT	WALLINGFORD	SOUTHEAST
Member Fees	$25.500	$32.168	$9.125	$16.073
Spot Fees	$8.565	NA	$ .750	0
Energy Sales	$37.000	NA	$4.979	$7.354
Recycling	$1.116	$2.163	NA	NA
Landfills	$3.025	$4.476	0	$.472
Interest Income	$2.500	$.200	$.307	$1.099
Other	$1.741	-	0	0
TOTAL	$79.477	$39.007	$15.570	$25.880
Source of Data: CRRA				

Table III-6. Budgeted Expenses by CRRA Project: FY 94 (Dollars in Millions)				
CATEGORY	MID-CONN.	BRIDGEPORT	WALLINGFORD	SOUTHEAST
Waste Transportation	$5.400	NA	NA	$1.921
Waste Processing	$14.931	$23.867	$7.099	$9.485
Gen. Administration	$2.885	$1.163	$.787	$.844
Landfills	$3.969	$3.865	$1.744	$.788
Debt Service	$30.119	$6.335	$5.746	$12.842
Recycling	$3.126	$2.881	NA	NA
Transfer Stations	$2.399	$.795	NA	NA
Power Block/CL&P	$16.424	NA	NA	NA
Other	$.195	$.100	0	0
TOTAL	$79.447	$39.007	$15.570	$25.880
Source of Data: CRRA				

In each CRRA project as well as for the Bristol resources recovery facility, member tip fees are based on net operating costs and determined according to formulas and provisions outlined in legal documents. How revenues and costs are distributed among the various parties involved in a project, or the project contract structure, is a major factor to consider in analyzing and comparing resources recovery tip fees.

The impact of differing project structures on tip fees is demonstrated by the data provided in Table III-7. The table presents FY 94 budget data for each operating resource recovery facility in Connecticut on a cost-per-ton basis. The table shows that in Bridgeport, unlike other facilities, there is no electric sales revenue or spot market income to offset operating costs for members. The member communities, because of bad past experience (the original Bridgeport waste-to-energy plant failed), chose to minimize their risk by having the facility operator provide significant financing and, in exchange, receive all of the project's less predictable revenues.

In contrast, members of the Mid-Connecticut project benefit from all project revenues and assume all risk. Income from energy sales, spot waste, and other sources is all applied to reducing operating costs and lowers members tip fees. In the remaining CRRA projects, revenues are shared to varying degrees by member towns and facility operators. At the Bristol project, energy revenues are shared but all income from spot waste is applied to reducing member town tip fees. To insure the member towns could control both the price and amount of spot waste processed at the Bristol facility, the rights to the plant's excess capacity were purchased from the facility owner/operator by the member town organization, the Bristol Resource Recovery Facility Operating Committee.

Waste supply. The amount of waste delivered by member towns is another key factor effecting tip fees. Net operating costs for a project are divided by the amount of member waste delivered to arrive at a per-ton charge. Under their contracts, if members deliver less waste while facility costs remain stable, their per-ton charge will be higher.

In general, member deliveries have declined at all facilities since they began operating. As Table III-8 reveals, insufficient levels of contracted waste are a significant problem in the Bridgeport and Southeast projects. In the Bridgeport project, a number of member towns are delivering amounts well below their minimum commitments to the facility operator, making them liable for substantial penalties under the "put or pay provision"[1] of their contracts. Negotiations between the facility operator and CRRA staff were underway at the time of the committee's review. According to authority staff, it is likely contract provisions will be renegotiated to prevent similar situations in the future.

Inadequate supplies of member waste have had the most severe impact in the Southeast project. In FY 93, member deliveries were 30 percent below the level originally projected

[1] Under these provisions, members guarantee to deliver of a certain amount of waste or pay a price for shortfalls. Such guarantees are common in waste-to-energy contracts as they provide an assurance to bondholders they will be repaid.

Table III-7. Resources Recovery Facility Expenses and Revenues
Per Ton of Waste Processed by Project: FY 94 (Budgeted)

	BRISTOL		BRIDGEPORT		MID-CONN.		WALLINGFORD		SOUTHEAST	
Design TPD	650		2,250		2,000		420		600	
Technology	Mass Burn		Mass Burn		RDF		Mass Burn/Mod.		Mass Burn	
Total Budget ($ millions)	$19.31		$39.01		$79.45		$15.57		$25.88	
Tons Processed	195,725		450,000		675,000		140,000		219,000	
Member	180,000		450,000		500,000		125,000		150,000	
Spot	15,725		0		100,000		15,000		25,000	
Other	0		0		75,000		0		44,000	
	$/TON	$ TOTAL	$/TON	$ TOTAL	$/TON	$ TOTAL	$/TON	$ TOTAL	$/TON	$ TOTAL
EXPENSES										
WASTE PROC.	$41.70	8,161,981	$53.04	23,867,430	$30.67	20,701,325	$50.71	7,098,863	$43.31	9,485,146
Op. Charge	$29.57	5,786,916	$48.16	21,670,319	$11.31	7,637,600	$35.13	4,918,574	$40.25	8,813,764
Prop Tx/PILOT	$6.56	1,284,897	$2.93	1,317,011	$4.79	3,231,635	$7.08	991,780	$1.42	310,942
Dioxin Tax	$0.97	189,462	$1.00	450,000	$1.00	675,000	$0.96	135,000	$0.90	197,100
Recycle Tax	$0.39	75,785	$0.40	180,000	$0.43	290,000	$0.40	56,000	$0.36	78,840
Util/Tax/Ins.	$4.21	824,921	$0.56	250,100	$13.14	8,867,090	$7.13	997,509	$0.39	84,500
DEBT SERVICE	$40.82	7,988,610	$14.00	6,300,223	$44.57	30,085,710	$39.27	5,498,359	$58.46	12,801,965
Principal	$5.71	1,117,917	$7.27	3,272,500	$12.57	8,483,125	$8.29	1,161,250	$15.50	3,393,750
Interest	$35.10	6,870,693	$6.73	3,027,723	$32.00	21,602,585	$30.98	4,337,109	$42.96	9,408,215
ASH RELATED	$10.96	2,145,084	$8.31	3,739,698	$4.99	3,371,564	$12.46	1,744,398	$12.37	2,708,455
LF Costs	$10.96	2,145,084	$8.31	3,739,698	$4.99	3,371,564	$12.46	1,744,398	$3.60	787,848
Waste Trans.	$0.00	0	$0.00	0	$0.00	0	$0.00	0	$8.77	1,920,607
ADMIN. GENERAL	$3.34	653,647	$2.88	1,297,577	$4.71	3,179,521	$6.03	844,428	$3.94	861,843
CRRA Alloc.	N/A	N/A	$2.29	1,029,017	$3.24	2,183,771	$4.81	674,069	$1.68	368,863
Local/Reg	$3.34	653,647	$0.22	100,000	$0.00	0	$0.19	26,250	$1.75	384,260
Other Misc.	$0.00	0	$0.30	133,560	$1.43	962,750	$0.62	87,109	$0.31	68,720
Bond Admin	(incl. above)		$0.08	35,000	$0.05	33,000	$0.41	57,000	$0.18	40,000
OTHER OPER.	$1.82	356,851	$8.45	3,802,037	$17.07	11,521,730	$1.38	193,125	$0.00	0
Recycling	$0.80	156,851	$6.40	2,881,380	$4.63	3,126,380	$0.00	0	$0.00	0
Trnf. Stns.	$0.00	0	$1.77	795,382	$3.55	2,398,850	$0.00	0	$0.00	0
Diversion	$1.02	200,000	$0.00	0	$0.00	0	$1.38	193,125	$0.00	0
Transport	$0.00	0	$0.00	0	$8.00	5,399,500	$0.00	0	$0.00	0
Landfill	$0.00	0	$0.28	125,275	$0.88	597,000	$0.00	0	$0.00	0
TOTAL EXP.	$98.64	19,306,171	$86.68	39,006,965	$117.70	79,447,250	$111.22	15,570,173	$118.17	25,879,909
REVENUES										
Invest.	$2.92	571,204	$0.44	200,000	$3.79	2,560,000	$2.93	410,000	$5.02	1,098,743
Energy	$37.01	7,244,691	$0.00	0	$54.81	37,000,000	$35.56	4,978,579	$33.58	7,353,801
Misc.	$0.91	178,937	$14.75	6,639,465	$6.77	4,572,250	$0.18	25,755	$3.30	722,948
Total	$40.85	7,994,832	$15.20	6,839,465	$65.38	44,132,250	$38.67	5,414,334	$41.90	9,175,492
EXP-REV	$57.79	11,311,339	$71.48	32,167,500	$52.32	35,315,000	$72.54	10,155,839	$76.28	16,704,417
Spot Revenue	$3.62	707,625	$0.00	0	$12.69	8,565,000	$5.36	750,000	$6.27	1,373,374
TIP FEE*										
Member Cost	$58.91	10,603,714	$71.48	32,167,500	$53.50	26,750,000	$75.25	9,405,839	$102.21	15,331,043
Reserves/other	$3.91	703,800	$0.00	0	$2.50	1,250,000	$2.25	280,839	$4.69	703,332
Final Tip Fee	$55.00	9,899,914	$72.00	32,167,500	$51.00	25,500,000	$73.00	9,125,000	$97.52	14,627,711

* calculated by dividing costs by member tonnage

Sources of Data: CRRA FY 1994 Operating Budget and BRRFOC adopted budget FY 94

(about 130,000 tons versus 170,000). Poor economic conditions, especially for the many defense-related businesses in the area, are blamed for most of the decline. Given that the project's tip fee is the highest in the state, flow control violations--delivery of member town waste committed to the Southeast facility to other disposal facilities in violation of local ordinances--are also considered to be a problem. For similar reasons, the project has had no success in attracting new members, which would spread fixed costs over a larger base and lower member rates.

Table III-8. Resource Recovery Project Member Deliveries Compared with Minimum Commitment Amounts (in tons) : FY 89 - FY 93

			Member Town Deliveries				
Project	**Aggregate Minimum Commitment**	**No. Towns**	**FY 89**	**FY 90**	**FY 91**	**FY 92**	**FY 93**
Mid-CT	410,385	44	581,229 (142%)	631,142 (154%)	557,458 (136%)	486,588 (119%)	487,991 (119%)
Bridgeport	452,000	14	522,581 (122%)	527,913 (117%)	458,770 (101%)	378,511 (84%)	350,837 (78%)
Wallingford	125,000	5	94,955*	175,230 (140%)	149,537 (120%)	127,064 (102%)	130,746 (105%)
Southeast	154,078	13	N/A	N/A	N/A	57,326*	129,640 (84%)
Bristol	153,300	14	196,340 (128%)	193,228 (126%)	178,516 (116%)	166,213 (108%)	181,275 (118%)

NOTE: Number in parentheses = actual deliveries as percentage of minimum commitment tonnage

* Partial year of operation

Sources of Data: CRRA; BRRFOC.

Excess capacity at waste-to-energy plants combined with impending landfill closures has resulted in very competitive pricing for disposal services.[2] As a result, resources recovery fees for spot waste, which are purely market derived, have been at historic lows. At the time of the

[2] Operators of some Connecticut landfills lowered their rates significantly during 1993 to attract as much business as possible prior to their final closure dates.

committee's review, spot market rates ranged from about $35 to $45 per ton, well below most member tip fees. Similar rates were expected to continue through 1994.

Low spot rates have benefitted out-of-state waste generators as well as Connecticut towns that are not committed to a facility. It appears the competition for waste also benefitted towns that delayed closing their landfills and only recently sought to sign long-term contracts for disposal services.

Recent resources recovery service contracts reviewed by the program review committee staff were found to be based on a flat fee plus annual escalation charge, usually an inflation factor (e.g., the CPI). This is in contrast to the net operating cost basis of existing project members contracts. For example, between July and November 1993, CRRA signed an additional 9 towns to 10-year contracts and 1 town to a 5-year contract with the Mid-Connecticut facility on a fee-plus basis. The per-ton rates in these contracts range from $54 to $59, with annual escalation generally tied to the same dollar amount that project member tip fees change. In October 1993, the city of Waterbury contracted with the Mid-Connecticut facility at a rate of $56 per ton, escalated annually at rate of inflation. In most cases, the new Mid-Connecticut contracts include recycling services and some include transfer station operations.

Similarly, in July 1993, the 11 towns of the Housatonic Resource Recovery Authority (HRRA) signed a fee-plus type of contract with Wheelabrator Technologies, Inc., the developer of the new waste-to-energy facility under construction in Lisbon.[3] The HRRA towns pay $78 a ton for transportation and disposal services, annually escalated at the CPI for 25 years. The city of New Haven also contracted with Wheelabrator for disposal services only; the city will do its own collection and transportation. The rate of the New Haven contract is $52 a ton escalated at CPI for 15 years and includes 2 5-year renewal options.

Between October and December 1993, seven eastern Connecticut towns that had used landfills or the now-closed Windham waste-to-energy facility signed agreements with American Ref-Fuel, the operator of the Southeast plants, for services at that facility. The company's contract with the city of Windham, which is for 10 years, begins at a rate of $45 per ton through FY 94, rises to $50 for FY 95 and in subsequent years is set at $55, annually escalated at CPI plus 1 percent. The other American Ref-Fuel contracts are for a period of 5 years, beginning at $48 per ton for FY 94 and increasing at the annual inflation rate thereafter. The contract prices only cover disposal services; towns must arrange their own transportation, estimated to add another $5 to $10 more or less per ton, depending on time and distance from the Southeast facility.

Budget Trends. Information on the operating budgets CRRA projects over time is contained in Table III-9. The table shows expenses at the authority's facilities over past five years were generally stable or decreased. According to authority staff, cost reductions were the

---

[3] The HRRA towns include: Bethel; Bridgewater; Brookfield; Danbury; Kent; New Fairfield; New Milford; Newtown; Redding; Ridgefield; and Sherman.

direct result of efforts to control member tip fees. In regard to the 24 percent decline shown in the table for the Southeast project, however, CRRA staff noted it is due mostly to removing longer term capital expenditures related to the ash residue landfill from the operating budget between FY 93 and FY 94. Excluding this item, overall operating expenses for that project decreased about 1 percent.

Table III-9. Trends in CRRA Project Budgets ($ in millions)

	FY 90	FY 91	FY 92	FY 93	FY 94
BRIDGEPORT	$39.01	$40.77	$44.59	$43.36	$39.01
% change		+4	+9	-3	-10
% chg tip fee		+15	+7	+5	+4
MID-CT	$75.57	$79.01	$85.63	$80.91	$79.45
% change		+5	+8	-6	-2
% chg tip fee		0	+9	+4	0
SOUTHEAST	N/A	N/A	$5.36*	$33.88	$25.88
% change				N/A	-24
% chg tip fee				+22	+24
WALLINGFORD	$17.57	$17.31	$15.72	$14.91	$15.57
% change		-1	-9	-5	+4
% chg tip fee		+9	+37	+6	+3
INFLATION RATE (CPI)		+5.5	+3.2	+3.1	+3.0**

* Opened Feb. 1992/partial year budget
** Estimated

Source of Data: CRRA Operating Budgets; U.S. Bureau of Labor Statistics

Operating costs of four of the five Connecticut resources recovery facilities are compared with recent national data in Table III-10. As information related to Bridgeport facility operating costs appeared not to be comparable to the others, it was not included in this analysis. The information included in the table also was compiled by Governmental Advisory Associates from surveys of waste-to-energy plants throughout the country. Operating costs are reported in terms of tonnage processed both with and without debt expenses.

In general, it appears when debt costs are included, Connecticut facilities regardless of technology are more costly to operate than the average waste-to-energy plant. For all four state plants, however, operating costs minus financing expenses compare well with national averages. The Bristol cost of $28.48 was the lowest of all the Connecticut facilities and virtually the same as the national average for a mass burn facility.

Table III-10. Waste-to-Energy Plants: Operating Cost Comparisons

	Operating Cost/Ton with Debt	Operating Cost/Ton without Debt
National Average		
All Plants (170)	$61.71	$33.58
Mass Burn (88)	$62.55	$28.88
Modular (46)	$62.52	$39.54
RDF (36)	$56.51	$38.60
Connecticut Plants*		
Bristol	$70.55	$28.48
Mid-CT	$79.75	$30.86
Southeast	$88.12	$32.42
Wallingford	$77.78	$37.04

Number in parentheses = number of facilities

Source of Data: Governmental Advisory Associates, 1993-94 Resource Recovery Yearbook

BLANK PAGE

CHAPTER IV
FINDINGS AND RECOMMENDATIONS

A primary goal of the program review and investigations committee study of CRRA fees for solid waste management services was to identify how tip fees are established and controlled and what improvement, if any, were required. The formula for determining rates for resources recovery services is relatively simple, as the data and analysis presented in previous chapters show. However, it is also clear from the committee's research that the factors effecting waste-to-energy rates are complex and volatile.

As the prior chapter described, tip fees at waste-to-energy plants are a function of operating costs and waste deliveries. Members of resources recovery projects are obligated by contract to pay the net operating costs of their facilities based on the amount of waste they deliver. If a project's expenses increase while its waste deliveries remain constant, user fees will rise. Similarly, if facility operating costs are stable over time but less waste is processed, per-ton charges will go up.

Over the past few years, the amount of contracted waste delivered to CRRA facilities has declined. Shortages are attributed to the economic recession, implementation of mandatory recycling, and possibly flow control violations. Excess capacity has been filled with garbage from the spot market but at prices significantly lower than member tip fees. Out-of-state waste generators and Connecticut municipalities without long-term trash disposal arrangements have benefitted from the low disposal prices produced by competition for garbage. For project members, however, it has meant less revenue to offset project operating costs. Low spot prices additionally are a disincentive to joining waste-to-energy projects. Furthermore, many within the state are concerned that reliance on out-of-state waste to fill plant capacity will continue.

Members of CRRA projects also expressed concern over the higher than projected operating budgets of their facilities. To some extent, increased expenses are due to more stringent environmental requirements related to ash residue disposal and air emissions. Modifications to improve plant efficiency or resolve technical problems also have raised costs in some cases. The program review committee found municipalities that belong to CRRA projects have little recourse when rising operating costs require higher tip fees, even if they believe expenses are unnecessary or unreasonable.

The emphasis throughout committee study was on the fairness and efficiency of CRRA tip fees as well as CRRA accountability to its municipal customers. The program review and investigations committee found a variety of actions can be taken, alone or in combination, to address tip fee concerns. Some options, however, are constrained by legal conditions established within a facility's contracts or bond documents. In developing its recommendations, the committee considered three main approaches: increase facility revenues; minimize excess capacity/increase waste supply; or subsidize fees. Findings regarding each approach along with

legislative and administrative improvements proposed by the program review committee are discussed below.

The following discussion is organized into four issue areas--tip fee equalization, operating cost controls, electric sales revenues, and system capacity. One issue not pursued by the program review committee was flow control. A legislative task force concurrently studying state solid waste management issues was examining flow control matters in detail and expected to introduce its recommendations for any statutory changes during the 1994 regular session of the General Assembly. Furthermore, a case that would determine whether local ordinances that direct where municipal solid waste is disposed of are constitutional was pending before U.S. Supreme Court at the time of the committee's review.

TIP FEE EQUALIZATION

Tip fees for resources recovery services in Connecticut vary widely. Rates paid by members of Connecticut Resources Recovery Authority projects during 1993 ranged from just over $50 to almost $100 per ton; the member rate at the only non-CRRA project in state (Bristol) was $55. In contrast, non members who used the waste-to-energy plant spot market usually paid between $30 and $40 for disposal services.

From the analysis highlighted in the previous chapter, CRRA rates except for one project (Southeast) seem comparable to averages for the region. The program review committee found, on average, that waste-to-energy tip fees in the northeast are the highest of any region in the country. As noted earlier, comparisons of recovery facility tip fees, especially among different jurisdictions, must be made cautiously. Key problems are the often significant variation in the range of services covered by tip fees and the fact that a facility's operating costs may be subsidized to some extent by taxes or other outside revenue sources.

Another important consideration when comparing resources recovery tip fees is how the revenues and expenses of a project are shared by the various parties. The committee's review of the five facilities operating in Connecticut showed the primary reason member tip fees vary by project is that each one is structured differently.

The analysis in the previous chapter also demonstrates how the amount of waste delivered by member towns affects tip fees. In general, member deliveries have declined at all facilities since they began operating. Insufficient levels of contracted waste have created serious problems in two CRRA projects while excess disposal capacity generally has resulted in historically low spot market rates. The committee found that low spot rates have benefitted out-of-state waste generators as well as Connecticut towns that are not committed to a facility.

Furthermore, contracts municipalities signed for resources recovery services in late 1993 seem more favorable than the net operating cost arrangement of original project member contracts. The newer contracts usually provide for a flat per ton charge, to be escalated annually at the CPI or a similar rate. It is difficult to predict what inflation rates will be over

the long-term, so fees may rise to member town levels in the future. In addition, towns under net operating cost contracts theoretically could have their tip fees go down in the years to come (i.e., if a project expenses drop, revenues are stable or increase, and waste supplies are sufficient). The difference between the two types of contracts is likened by some to making a choice between a fixed and a variable rate mortgage.

It has been suggested that the wide variation in rates paid for resources recovery services in Connecticut is unfair and that fees, including spot prices, should be equalized. Uniform fees would eliminate current economic disincentives to becoming a member of a project and could significantly diminish flow control problems.

State subsidy. The most direct method to equalize resources recovery tipping fees for project members would be through a state subsidy. However, it is estimated that at least $19 million would be needed to bring member rates at the four CRRA facilities to the lowest level currently paid--Mid-Connecticut's $51 tip fee. More state funding would be required, of course, if non-CRRA projects such as Bristol were included in a state subsidy program. Under the state subsidy method, the costs of achieving uniform prices would be spread among all citizens. Only some citizens, the residents of towns that are members of resources recovery projects, would receive the direct benefits of such a subsidy, which raises a different fairness issue.

Uniform rate. CRRA project member rates could also be made uniform by combining the costs and revenues of all facilities and distributing them equally among all members based on waste deliveries. As an example, the program review committee staff estimated that for FY 94, the equalized CRRA member rate would be about $68 per ton, assuming a combined net operating cost for the Bridgeport, Mid-Connecticut, Southeast, and Wallingford facilities of $83.6 million is divided by 1.2 million tons of delivered by member communities.

This equalization approach could be expanded to include non-CRRA facilities like the Bristol project. It could also be applied to spot waste, in which case total net operating costs would be divided equally among all users, whether delivered under contract or through the spot market, to arrive at an equalized tip fee.

To implement rate equalization without extensive renegotiation of member and operator contracts, the state could impose a tax on waste deliveries. The tax would be assessed at the rate needed to bring all tip fees to the same level. Assessments would be collected, deposited in a special account, and redistributed to the various project members to offset tip fee disparities.

As with a state subsidy, using an assessment to equalize tip fees raises another fairness issue. Specifically, while rates would be the same for all users under the plan outlined above, the services provided and levels of risk assumed by member communities still would vary by project. The fairness of increasing costs for towns that have assumed greater financial risks for their projects and reducing costs for others can be questioned. The new uniform price would also have little relationship to the services received. The committee believes it would be possible, although complicated, to work out a pricing system that could take these factors into

account. An independent agency, the Department of Environmental Protection or perhaps the Department of Public Utility Control could be assigned responsibility to oversee a uniform pricing and assessment mechanism. The more drastic step of trying to renegotiate all member and vendor contracts to achieve equal services and project risk structures was not considered practical by the program review committee.

A second concern related to uniform pricing is the impact it would have on the supply of spot waste at Connecticut waste-to-energy plants. All facilities need to use spot waste to offset seasonal drops as well as sometimes daily fluctuations in deliveries of contracted waste. With the current shortages of garbage, resources recovery projects are competing for spot waste with each other as well as with other disposal facilities. Alternatives at present include low-cost landfills, some of which are located out-of-state. If the state's waste-to-energy plants are unable to attract sufficient levels of spot waste because an equalized tip fee is uncompetitive, facility operations as well as project finances could suffer.

Whether to subsidize tip fees through a state grant or an assessment is a policy matter that demands careful consideration. From its survey of Connecticut municipal officials, the program review committee found that a majority of town officials do not support equalizing resources recovery tip fees. Almost two-thirds of the 89 towns that responded to the survey question on uniform rates opposed tip fee equalization. However, as might be expected, towns that now pay high member fees were likely to support equalization efforts while those opposed were primarily the municipalities belonging to the relatively low-priced Mid-Connecticut and Bristol projects. A complete compilation of survey results is contained in Appendix D.

The program review committee believes that any plan to equalize rates should be combined with a specific program for assuring waste-to-energy plants operate as efficiently as possible. Current efforts to control operating costs at resources recovery facilities are described in the following section. The committee further believes it is premature to overhaul the entire pricing structure while the extent of permanent excess capacity within the resources recovery system is still uncertain. Findings regarding waste supplies and system capacity also are discussed more fully later in this chapter.

There are some indications that tip fees could reach about the same level on their own, given more equivalent operating conditions at the various facilities and adequate member waste supplies. For instance, not all project tip fees incorporate the full costs of complying with new waste-to-energy ash residue disposal standards, for example. Mid-Connecticut rates are expected to rise as expenses associated with improvements to its ash landfill are included in its operating budget. In contrast, the Southeast facility budget already includes the costs of constructing a state-of-the-art ash disposal area as well as the concurrent expense of transporting its ash out-of-state for disposal in the interim.

In theory, even the Southeast project's member fees could become more competitive with implementation of planned cost reductions and member waste deliveries at the minimum commitment level. For example, committee staff calculated that reducing expenses from the FY

94 level of $15.3 million by just over $4 million (a 27 percent decrease) and receiving 150,000 tons of member waste (a 16 percent increase over FY 93 actual member deliveries), would result in a tip fee of about $75.

With improvement in the state's economy, more municipal solid waste will be generated, according to industry and academic experts. One recent analysis commissioned by the developers of a new waste-to-energy plant (Lisbon) predicts that economic recovery will produce a 4.5 to 5 percent increase in the amount of waste generated in the state and delivered to waste-to-energy plants over the period 1993 to 1997.[1] It remains to be seen whether this or other predictions of when waste supplies will increase and by how much will prove accurate. As one economist noted to committee staff, waste disposal tip fees are in a "period of adjustment" due to the volatility of the garbage supply. In Connecticut, at the same time landfill and municipal incinerator closures are adding to demand for resources recovery services, continued implementation and possible expansion of recycling efforts are reducing deliveries to waste-to-energy plants. The impact of economic recovery on member town waste deliveries is still a matter of speculation.

The program review and investigations committee does not recommend rate equalization at this time. The primary problem contributing to tip fee inequities is the size of the spot market. The glut of resources recovery and other disposal capacity over the past few years has produced bargain spot market prices, which benefit uncommitted Connecticut towns as well as out-of-state waste generators. An alternative to artificially setting spot prices to achieve uniformity is to the shrink the system's capacity for spot waste.

Capacity. Current excess capacity could be reduced if all towns in Connecticut were required to use resources recovery plants, either as members or through long-term contracts for disposal services. In FY 93, about one-third of the more than 2 million tons of garbage delivered to the state's waste-to-energy plants was spot waste and over half of it came from Connecticut towns. As towns using the spot market at present pay less than the member municipalities, there is little incentive to voluntarily join a project. Mandating the use of resources recovery projects, however, is inconsistent with state policy that, to date, has allowed communities to determine their own municipal solid waste management programs. Furthermore, the majority of Connecticut municipalities are already members of or are have long-term contracts with resources recovery facilities. As of December 1, 1993, about 25 towns were not using a waste-to-energy plant and only another 16 or so communities were short-term customers (i.e.g, those with contracts for a period of 5 years or less). According to environmental protection department staff, at least three communities plan to continue to use their local landfills, which seem likely to meet new, more stringent environmental requirements, and therefore will not need waste-to-energy services.

---

[1] Ray, Subhash C., Ph.D. and Arthur W. Wright, Ph.D, *The Impact of Changes in General Economic Activity on Municipal Solid Waste (MSW) Generation: A Report to Attorney Richard G. Adams*, December 1992.

The committee believes another mechanism for addressing spot market inequities--improving the ability of member towns to control excess capacity within their facilities--deserves further analysis. When project members control excess capacity, as in the publicly owned Mid-Connecticut, they not only receive all spot market income but they make all pricing decisions on services at their facilities. The benefits to member towns of controlling a plant's excess capacity were recognized by the operating committee of the Bristol resources recovery and led to its decision to purchase from that facility's private owner/operator all spot market rights.

The program review committee found that the lack of control over excess capacity has contributed to inequities in two CRRA projects. In the Bridgeport project, the facility operator controls that plant's excess capacity and receives all spot waste revenues. At present, Bridgeport member towns not only pay higher tip fees than spot market customers, including out-of-state users, but derive no financial benefit from that use of their facility. In the Southeast project, the rights to bring in spot waste when there is excess capacity as well the revenues produced are shared by the operator and the member communities share spot market rights and revenues. However, this arrangement has forced SCRRRA, the facility's local governing board, to compete with its plant operator, American Ref-Fuel, for new contract customers.

The program review committee recommends that CRRA analyze the costs and benefits of purchasing all rights to excess capacity at the Bridgeport and Southeast resources recovery project and report its findings to the legislature's environment committee for consideration during the next regular session of the General Assembly. Many find it unfair that spot market customers, including out-of-state users of Connecticut waste-to-energy plants, can pay lower tip fees than the member towns that shoulder the costs of the facilities. Rate equalization, which may be difficult to implement as discussed earlier, can correct such disparities. However, rate equalization will not address the fact that in the Bridgeport and Southeast projects, member towns do not receive the full benefit of spot waste revenues, regardless of the price paid. By gaining control of facility excess capacity, member towns can at least receive the economic benefits of accepting spot waste, even if prices are not equalized.

The purchase of spot rights at these two projects is likely to be expensive. Whether these costs are outweighed by the revenue benefits to members over the long run will be determined through authority's study of the issue. Depending on the information supplied by CRRA in its recommended analysis, the legislature may want to consider ways to promote the purchase of excess capacity. For example, the costs to purchase spot waste rights from the operators could be underwritten to some extent with funds collected through a statutory surcharge placed on all spot waste processed at Connecticut plants.

A surcharge on spot waste could serve several desirable purposes. Revenues produced through a surcharge, like the assessment to achieve equalization discussed above, could be used to relieve some of the extra financial burden member towns carry for facility operating costs. If high enough and placed on all non-member waste deliveries, a surcharge could be an incentive to towns under long-term contracts to join the project they use. A surcharge placed on out-of-

state waste could be used to offset inequities related to the tip fee subsidy Connecticut electric customers provide. However, instituting a high surcharge, like equalizing rates through an assessment, may interfere with the spot market to the point that waste supplies for inadequate for efficient plant operations. It is not clear at what level a surcharge on non-member garbage would discourage needed spot waste deliveries.

It is likely, in the committee's opinion, that special efforts will be needed to improve the economics of the Southeast waste-to-energy facility. Some level of state financial assistance for the Southeast project might be justified by the fact that it was the only one not to receive municipal tip fee stabilization funding under the earlier state grant program. Program review committee was unable to determine within the timeframe of this study the best approach for providing such assistance or the appropriate funding level and mechanism. **Therefore, it is recommended that the Connecticut Resources Recovery Authority in conjunction with the Southeast Connecticut Regional Resources Recovery Authority: 1) analyze the economics of the Southeast project, including trends in operating costs, revenues, and waste deliveries; and 2) submit a summary of their findings along with proposed strategies improving the project finances by attracting new members and other means to the legislature for consideration during the next regular session of the General Assembly.** Detailed economic information of this nature will permit the legislature to better evaluate both the costs and benefits of providing financial assistance to the Southeast project member towns.

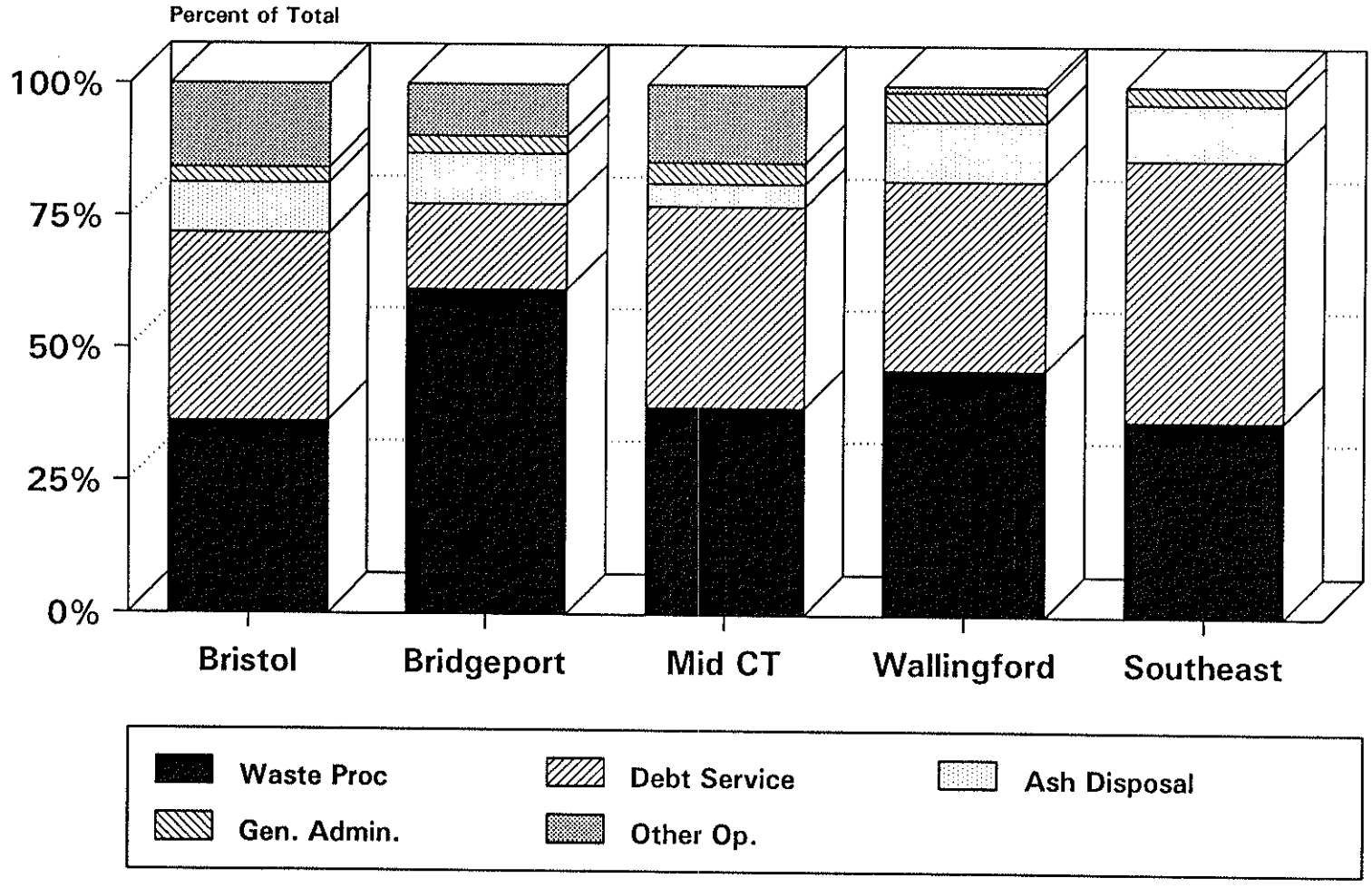
Operating Cost Controls

A key way to reduce or contain resources recovery tip fees is to cut facility operating costs. The program review committee evaluated CRRA efforts to control project expenses by examining trends in the operating budgets of its facilities, comparing operating expenses of CRRA projects to each other, to the Bristol facility and to the best available national information on waste-to-energy plants costs, and reviewing how the authority is held accountable for its decisions on operating expenses.

From the analysis presented in the prior chapter, the committee found the operating budgets of CRRA facilities over past five years were generally stable or decreased. Comparative data developed by the committee also indicated that Connecticut facilities are more costly to run than the average waste-to-energy plant; however, when financing costs are excluded, operating expenses of at least three CRRA projects as well as the Bristol plants seem to compare well with national averages.

The committee also found that like most waste-to-energy plants, major cost items of CRRA projects--operating contract fees and debt service--are essentially fixed. Opportunities to significantly reduce project costs, therefore are limited by contract provisions and bond indentures. As the information in Figure IV-1 indicates, except for the Bridgeport facility, debt service accounts for about 40 percent of the current budget of each facility operating in Connecticut. Waste processing expenses which include operating and maintenance charges as

Figure IV-1. Major Operating Expenses
by Project, FY 94



Sources of Data: CRRA and BRRFOC

well as taxes, utilities and insurance costs related to the facility, make up at least another 40 percent of all project budgets.

Renegotiation of contract provisions is possible, however, if the parties involved agree it is in their interests. Projects can also be refinanced, depending on the terms of current bond, to reduce debt service. With the favorable interest rates, such as those experienced at the time of the committee review, the financial impact of debt restructuring can be significant. The operating committee of the Bristol resources recovery facility completed a refinancing effort in late 1993 and estimated resulting savings could equal five dollars a ton in operating costs.

The committee found that steps to improve the financial position of project members through contract changes have been taken in a number of cases. For example, the local authority for the Southeast project, SCRRRA, with assistance from CRRA, has been negotiating with the facility operator to resolve a number of problems. One key issue, the heating value of waste which affects how the operator and the project share energy revenues, was reportedly close to being settled at the time of the program review study. As noted earlier, revisions of contract provisions concerning minimum commitment levels of Bridgeport project member towns were under discussion with that facility's operator. Contracts related to energy sales at the Wallingford facility were recently concluded and will result in increased revenues in future years for that project.

Program review committee also found that CRRA has taken actions to reduce debt service costs at its projects. Refunding of debt has occurred in both the Mid-Connecticut and Wallingford projects. The local authority for the Southeast project was working with CRRA to restructure its financing at the time of the committee's study. Legislation enacted during the last regular legislative session (Public Act 93-372) was initiated by the authority to allow it greater investment and bonding flexibility in order to address the high debt service costs of the Southeast project. Table IV-1 summarizes the bond status of each CRRA project.

General administrative expenses are the most discretionary area of a resources recovery project budget. Administrative overhead, however, appears to be only a small portion of any of the currently operating resources recovery facility. Since FY 90, based on committee research, the general administration budget category for CRRA projects has averaged just under 4 percent of total annual operating expenses. Administrative overhead in the Bristol resources recovery project typically accounts for around 3.5 percent of the budget.

The budget analysis presented in Chapter III showed that for fiscal year 1994, administrative costs for CRRA projects on a per-ton basis varied from about $3.00 to $6.00. In the Bristol project, general administration, essentially the overhead costs associated with the facility operating committee, equated to $3.34 per ton of waste processed in FY 94. From this analysis it appears that even if administrative costs are found to be excessive, reductions will have only a small impact on tip fees.

Table IV-1. Status of Outstanding CRRA Project Bonds: September 30, 1993.

PROJECT	PURPOSE	DATED	MATURITY	RATES	(Dollars in Millions)		
MID-CT							
1985 Series A	Facility/Landfill/Transfer Stations	03/01/85	11/15/98	6.75-8.80	$100.000	$21.525	$78.475 *
1985 Series B	Facility/Landfill/Transfer Stations	03/21/85	11/15/12	7.30-7.88	$209.900	$0.000	$209.900 *
1985 Series A-CL%P	(CL&P)	11/26/85	10/15/97	Variable	$77.000	$21.570	$55.430 *
1991 Series A	Regional Recycling Center	08/15/91	11/15/01	5.25-6.50	$7.735	$0.510	$7.225 *
1993 Series A	Refunding			4.20-5.75	$43.825	$0.000	$43.825 *
Project Total					$438.460	$43.605	$394.855
BRIDGEPORT							
1985 Series A	Facility	12/31/85	01/01/09		$136.300	$8.755	$127.545
1985 Series B	Facility	12/01/85	01/01/04	7.00-8.63	$91.675	$16.220	$75.455
1987 Series A-Sub	Authority Purpose	06/15/87	07/01/99	5.75-7.38	$3.700	$1.205	$2.495 *
1989 Series A-Sub	Landfill/Transfer Station	06/01/89	01/01/09	6.75-7.50	$16.135	$1.365	$14.770
1991 Series A-Sub	Regional Recycling Center	08/15/91	01/01/02	5.50-6.50	$9.480	$0.720	$8.760 *
1993 Series A-Sub.	Ash Landfill Expansion	04/15/93	07/01/97	4.00-4.25	$7.590	$0.000	$7.590
Project Total					$264.880	$28.265	$236.615
WALLINGFORD							
1986 Series A	Facility	12/01/86	11/15/08	6.50-7.13	$34.000	$0.000	$34.000 *
1986 Series B	Facility	12/01/86	11/15/98	5.25-7.00	$8.610	$0.600	$8.010 *
1986 Series I-Sub.	Facility	12/01/86	11/15/08	Variable	$5.000	$0.595	$4.405 *
1986 Series II-Sub.	Facility	12/01/86	11/15/08	Variable	$4.000	$0.385	$3.615 *
1991 Series I-Sub.	Facility Improvements	08/08/91	11/15/05	6.63-6.85	$7.000	$0.000	$7.000
Project Total					$58.610	$1.580	$57.030
SOUTHEAST							
1988 Series A	Facility	12/01/88	11/15/15	6.90-7.85	$102.630	$0.000	$102.630 *
1988 Series A	Landfill	12/01/88	11/15/01	6.80-7.70	$17.855	$1.290	$16.565 *
1988 Series A (Corp. Credit)	Facility	12/01/88	11/15/15	7.00-8.10	$16.340	$0.000	$16.340 *
1989 Series A	Authority Purpose	06/01/89	11/15/11	7.70	$3.935	$0.165	$3.770 *
1992 Series A (Corp. Credit)	Facility	09/01/92	11/15/22	6.45	$30.000	$0.000	$30.000
Project Total					$170.760	$1.455	$169.305
TOTAL					$932.710	$74.905	$857.805

* Bonds secured by Special Capital Reserve Fund (SCRF)
(Total outstanding SCRF Bonds = $595.445 million)

Source of Data: CRRA

At present, the responsibility for assuring that CRRA project members are not overcharged rests primarily with the authority's board of directors. The board by law is composed of several state officials, legislative appointees that currently include members of the General Assembly, and gubernatorial appointees that represent the general public and municipalities. Ad hoc members from each project are also part of the CRRA board.

In addition to scrutiny by the board of directors, the finances of the authority are audited by an independent accounting firm annually. The authority is also subject to periodic examination by the state Auditors of Public Accounts.

As described in an earlier chapter, operating budgets and resulting member tip fees for all CRRA facilities are developed by authority staff and reviewed and approved by the board. Participation by member towns or their representatives varies by project but is generally advisory. The only project with formal authority to adopt its budget and member tip fee is Southeast. Accountability to project members for decisions on operating expenses is most direct in the Bristol facility. That project's budget is developed and voted on by an operating committee comprised of representatives, usually the chief elected official, of each member town.

In interviews, survey responses, and public hearing testimony, a number of municipalities towns questioned whether the CRRA board has sufficient incentives to contain project costs. By contract, facility operating costs not covered by other revenues must be covered by member town tipping fees. Furthermore, competition is a not factor in pricing resource recovery services, at least for member towns.

In general, the majority of municipalities responding to a program review committee survey on CRRA tip fees rated the authority favorably in terms of the services it provides. The least favorable responses concerned CRRA's performance in controlling administrative and overhead costs. Half of the approximately 70 towns familiar with the authority rated the job it does such as poor or only fair.

The program review committee believes the ability of member towns to hold CRRA accountable should be strengthened. Two actions are recommended to achieve this. First, existing statutes concerning the ad hoc members of the authority's board of directors need to be clarified. Current law refers to the appointment of up to two electors from communities to be served by proposed facilities. Statutory language also provides that ad hoc member vacancies can be filled by a resident of a municipality that is the host to a resources recovery facility. In practice, ad hoc memberships have been filled with representatives of project member towns. However, if the intent of ad hoc membership is to provide municipalities that belong to CRRA projects with representation on the board of directors, the statutes should clearly state that.

Therefore, the program review and investigations committee recommends that C.G.S. Sec. 22a-261(g) be amended to provide that two ad hoc members to represent the municipal members of each CRRA resources recovery facility shall be appointed to the board by the governor with the advice and consent of the General Assembly. The ad hoc

members shall be electors from municipalities served by the facility and shall vote only on matters concerning that facility, including but not limited to all budget items that effect the fees charged project members.

Second, the program review committee recommends that members towns be authorized to require an independent management audit of their project be conducted. At present, outside review of the authority focuses on fiscal compliance. Business decisions and management practices that may effect the costs members pay for services are not necessarily evaluated. As noted earlier, municipalities do have the opportunity to question and advise authority staff about operational and financial matters during the budget preparation process. For the most part, however, the authority is not obligated to respond if member towns disagree with business-related decisions concerning their projects. Under the committee recommendation, members through majority vote or by action of their local organization could seek an objective evaluation and present those findings to board for consideration.

The committee believes adoption of these recommendations will improve the ability of member towns to hold the authority accountable for project operating costs. These changes will not significantly add to project expenses or impede authority management. Economic regulation of solid waste tip fees, like that carried out for public service companies by the Department of Public Utility Control, was considered as another mechanism for protecting member towns from overcharging. However, DPUC rate regulation was found to be generally inappropriate for solid waste management tip fees.

The focus of current Department of Public Utility Control economic regulation efforts is to control the profits of monopolistic private utility companies. Resources recovery projects now operating in Connecticut, while in many ways similar to the public service companies regulated by DPUC, are either owned by or operated under the auspices of public entities. Customers of CRRA projects serve on the authority's board of directors and can vote on service rates. In the Southeast as well as the Bristol projects, service users comprise the facility governing boards and actually set tip fees. Existing plants are in effect not-for-profit, and by state statute, any "surplus revenues," (in effect, project profits), must be redistributed to the users of the services.

In regulating privately owned utilities, DPUC reviews costs to determine if they were necessary and prudently incurred. If not, the department can prevent them from being passed on to customers. In the case of resources recovery plants, long-term contracts including those with bondholders are the basis for service rates. Provisions of long-term contracts generally cannot be altered by DPUC action or state law, even if the department found that customers are being overcharged. One area where the regulatory agency could direct changes if it found inefficiencies is overhead and administrations, including CRRA central office expenses. As pointed out earlier, however, this cost category has only a small impact on tip fees.

In addition to preventing excessive profits and overcharging, DPUC attempts to assess how a company has been run, monitors service quality and safety issues, and carries out service

planning. The quality and safety of resources recovery services is already regulated by the Department of Environmental protection, which also carries out statewide solid waste management planning. Program review committee believes its recommendation to allow member communities to call for management audits of CRRA can accomplish the same purpose as a DPUC assessment of how well projects are run and provides for closer accountability. **Economic regulation of resources recovery tipping fees, therefore, is not recommended.**

Based on the results of the committee survey of municipal officials, it appears most member communities would not support regulation of resources recovery rates. Seventy-one percent of the 97 officials who answered the survey question concerning state regulation of solid waste management tip fees opposed the idea.

It appears only one state--New Jersey--has instituted economic regulation of solid waste management services. In New Jersey, the state Bureau of Economic Assessment within the environmental protection and energy agency's solid waste division is responsible for regulating the services and fees of waste-to-energy plants, transfer stations, landfills, and until recently, waste haulers.

Information gathered by program review staff showed that in 1993 the rates of the four resources recovery facilities operating in New Jersey are the same or higher than all Connecticut projects except Southeast. Tip fees in effect as of January 1993 for the four New Jersey facilities averaged $93 per ton and ranged from $73 to $122 per ton. Rates have fluctuated over time but since the oldest plant has only been operating for four years, it is difficult to observe any patterns in increases or decreases. More time and more detailed information on rate requests, among other data, are needed to evaluate the impact of economic regulation on New Jersey resources recovery tip fees. Based on the data available, the committee believes New Jersey's experience does not present any compelling reasons to adopt a similar system in Connecticut.

Electric Sales Revenues

The major source of revenues for waste-to-energy plants other than tip fees is energy sales. For all current Connecticut projects except the Bridgeport facility, income from the power produced while burning municipal solid waste accounts for almost one-third to nearly one-half of total revenues. Analysis presented in Chapter III indicated that in FY 94, energy sales reduced resources recovery plant operating costs between $33.58 and $54.81 per ton of waste processed, depending on the facility.

Energy revenues clearly play a critical part in what project members pay in tip fees. Without the income from electric and steam sales, tip fees at Connecticut projects would not be competitive with other disposal options. Due to federal and state policies concerning the purchase of power from alternative energy generators like waste-to-energy plants, electric customers are in effect subsidizing tip fees.

As discussed earlier in this report, federal law requires electric utilities to purchase the power produced by generating plants that use renewable energy resources such as municipal solid waste. Under federal regulations, utilities must pay a rate at least equal to their avoided cost (the amount it would cost the electric company to generate the power purchased). States are permitted to adopt laws that require higher purchase prices. Connecticut enacted a special incentive known as the municipal rate statute to encourage development of waste-to-energy plants. Under this law, utility companies must, if requested by towns, buy the power produced by their resources recovery facility at the same price it charges the municipalities for the electricity (also called the retail rate) for a period of up to 20 years.

It should be noted that only one Connecticut project--Southeast--now receives payments at the municipal rate level. Decisions related to that price arrangement are being litigated by the utility company at this time. For all other existing projects, the prices are negotiated amounts, based for the most part on the utilities' assumptions about their future avoided costs. At that time the agreements were developed, these prices compared well with current and projected avoided costs. Given the unexpected drop in oil prices along with unanticipated business changes and economic conditions, present avoided costs are well below the prices paid for power produced by the resources recovery plants.

At the request of program review committee staff, the Department of Public Utility Control prepared an analysis of the impact of subsidy received by resources recovery plants on the typical electric customer. The DPUC information shows that power produced by the waste-to-energy plants is expensive but the additional cost, at least to the average residential ratepayer, is relatively small.

The public utility control department staff looked at the subsidy issue two ways. Under the first way, ratepayer costs were examined the way utilities typically do--as if the resources recovery plants had not been built and their power is replaced with existing generation. The second way assumes that if the waste-to-energy plants had not been built, alternative generators, most likely gas plants, would have. The results of each analysis, summarized below, is presented in terms of the additional annual cost in 1992 to a residential customer using 500 kwh per month because of the power purchased from resources recovery plants:

	Case 1	Case 2
Connecticut Light & Power (CL&P)	$6.38	$1.08
United Illuminating (UI)	$30.79	$4.09

The impact is different for UI customers because energy purchased from resources recovery plants is a much higher portion of its total generation.

The program review and investigations committee found, in contrast, that the impact of eliminating the subsidy would be substantial in terms of tip fee increases. The amount of the increase would depend on the project. In addition, how tip fee increases translate into customer costs cannot easily be determined. However, the tip fee impact of eliminating the electric price subsidy in Mid-Connecticut project was roughly estimated by committee staff.

In the Mid-Connecticut project, all energy revenues are applied to lowering the operating costs paid by members. If the project's purchase price was reduced from the current 8.5 cents per kwh to the Connecticut Light and Power Company FY 94 avoided cost rate of 2.9 cents, electric revenues would drop by about two-thirds. As a result, if all other expenses and revenues remained the same, Mid-Connecticut project member tip fees would have to increase by approximately 90 percent--nearly $50 per ton--to cover plant operating costs as the following calculation shows:

	Tip Fee at 8.5 cents/kwh	Tip Fee at 2.9 cents/kwh
Net costs before electric revenues:	$63.75 million	$63.75 million
Electric revenues:	$37.00 million	$12.60 million
Net costs after electric revenues:	$26.75 million	$51.15 million
Net cost/member waste deliveries (500,000 tons):	$53.50 per ton	$102.30 per ton

The policy embodied in the municipal waste statute has achieved its intended purposed of encouraging development of resource recovery capacity. In the opinion of the program review committee it has also had two unintended consequences: 1) it provides an incentive for projects to burn as much solid waste as possible, which seems in conflict with state solid waste policies and plans for reduction, recycling, and reuse; and 2) Connecticut electric utility customers are subsidizing the disposal costs for waste generated out-of-state.

The law generally poses problems because the waste a plant burns to produce energy doesn't necessarily come from the electric customers that are paying the subsidy. For example, the Southeast project has had to develop a "blended" purchase rate to address the fact that its waste is supplied by both CL&P and non CL&P customers.

To avoid such complications in the future, the **program review committee recommends that C.G.S. Sec. 16-243e concerning the subsidized purchase of power produced by resources recovery facilities at the municipal rate be repealed.** Under this recommendation, purchase prices for any new resources recovery plants would be negotiated by the parties and, as currently required, subject to DPUC review and approval. There would be no impact on current power purchase agreements. If it is determined that incentives are required to develop needed waste-to-energy capacity in the future, new special subsidy policies could be enacted by the legislature at that time.

System Capacity

Waste-to-energy plants are intentionally designed with excess capacity. Facility operators generally try to guarantee a portion of maximum waste processing capacity, usually about 85 percent, by obtaining contracts for waste deliveries at that level. Remaining capacity is needed to accommodate seasonal peaks in waste deliveries as well as facility downtime due to routine maintenance or unplanned repairs. Spot waste is used to fill planned excess capacity when it is available as well as to make up for fluctuations in deliveries of contracted waste.

As discussed in earlier chapters, shortfalls in deliveries from project members have produced significant levels of excess capacity at several Connecticut plants. Whether the current level of excess capacity and its negative effect on tip fees is a temporary situation or a permanent condition is a matter of debate at present. If member waste deliveries stay at their current levels, however, there are many financial and policy implications.

Between FY 89 and FY 93, deliveries of non-member waste to CRRA facilities grew from 12 percent to 38 percent of all garbage received. During the past fiscal year, nearly half of the spot waste received at the CRRA facilities came from out-of-state generators. Data for the first 4 months of FY 94 (July through October 1993) indicated a continuation of this trend. Spot deliveries made up 41 percent of total tonnage received at the authority plants. Out-of-state waste continued to constitute a significant portion--45 percent--of spot deliveries overall for CRRA plants. The spot waste situation, however, varies considerably by project as Table IV-2 shows. Information was not compiled for the Bristol facility but that plant to date has had little reliance on spot waste.

As the table indicates, the Wallingford facility makes minimal use of spot waste, and virtually none has come from out-of-state. The Southeast project, too, has had little reliance on out-of-state waste deliveries although its dependence on spot waste is significant and seems to be increasing. Spot waste plays the most significant role at the Bridgeport facility--48 percent of total deliveries at present. In FY 93, it had the greatest proportion of out-of-state waste deliveries--24 percent of total deliveries. There is less reliance on imported garbage now that

Table IV-2. Waste Deliveries to CRRA Resources Recovery Projects FY 93 and July - October 1993.		
	FY 93	**FY 94 (4 months)**
ALL CRRA PROJECTS		
Tons Delivered	1,845,435	649,394
Percent Spot	38%	41%
Percent Out-of State	18%	19%
MID-CT		
Tons Delivered	713,381	267,511
Percent Spot	32%	40%
Percent Out-of-State	19%	28%
WALLINGFORD		
Tons Delivered	145,772	48,006
Percent Spot	10%	7%
Percent Out-of-State	1%	0%
BRIDGEPORT		
Tons Delivered	770,173	257,541
Percent Spot	49%	48%
Percent Out-of-State	24%	18%
SOUTHEAST		
Tons Delivered	216,109	76,336
Percent Spot	40%	46%
Percent Out-of-State	6%	0%
Source of Data: CRRA		

the Bridgeport plant, whose operator is a subsidiary of the Lisbon developer, isbeing used by future Lisbon clients (e.g., the HRRA towns and the city of New Haven) until the new facility is operational. The trend at Mid-Connecticut seems to be toward a substantial increase in spot deliveries overall (from 32 to 40 percent). Waste delivered from out-of-state generators also grew from 19 to 28 percent. It is not clear, based on these limited data, whether these patterns are representative of what will occur over the full year. The program review committee is concerned, however, over the excess capacity issued raised by this preliminary analysis.

The program review committee found that the question of whether Connecticut has substantial excess waste-to-energy plant capacity depends on a number of assumptions about future conditions. These include how much and when the state economy will improve, future rates of recycling, operating capacities of resource recovery facilities, and the availability of disposal alternatives such as landfills.

The Department of Environmental Protection analyzed the capacity issue during its certificate of need process regarding the resources recovery facility now under construction in Lisbon. According to the department's final decision issued in February 10, 1993, the amount of municipal solid waste generated in Connecticut will, by 1998, require the capacity of all five existing facilities (about 5,000 tons per day) plus the approximately 400 tons per day capacity of to-be-built Lisbon plant.

The DEP decision was based on the following assumptions: a Connecticut waste generation rate of .86 tons per day per capita; a recycling rate of no more than 25 percent by 1998; an operating capacity of 85 percent for resources recovery facilities; closure of most landfills and municipal incinerators in the state; and any increased waste generation due to economic improvement negated by recycling. A number of factors within the department's analysis have been criticized by those opposed to the Lisbon plant and were, in fact, the subject of a legal challenge by CRRA. From its review of the hearing officer's decisions, the committee found the agency's approach generally to a reasonable method for assessing need. However, much of the data used for the analysis, while probably the best available at the time, was incomplete or developed from estimates and projections rather than actual experience.

Better data on waste generation and recycling are now available and are being used to update by DEP to update the state solid waste management plan. The status of nearly all Connecticut landfills and incinerators is more certain at this time as well. Department staff believe their latest information continues to show resources recovery capacity and in-state waste supplies will match within the next few years. The agency expects to release its draft plan, which will include a discussion of facility capacity, for comment in 1994.

An analysis of more recent data supplied to the committee by CRRA predicted substantial excess capacity within three of its waste-to-energy plants even in consideration of landfill and incinerator closures. Authority data from October 1993 show that the Bridgeport, Mid-Connecticut, and Preston facilities had a total of 1,000 tons per day excess capacity. Using data from DEP, authority staff estimated that the waste now delivered to landfills that are closing and

will need to be disposed elsewhere is 360 tons per day. Closure of the two remaining municipal incinerators (Stamford and New Canaan) would add 270 tons. Even if all of this waste came to CRRA facilities, the authority contends it will have almost 400 tons per day excess capacity.

There may be a number of reasons for the differences between the DEP and the CRRA estimates, but a major factor is the difference in assumptions about operating capacity levels. In its certificate of need analysis, DEP assumed plant operating capacity at the 85 percent level. CRRA waste-to-energy plants are actually operating levels above 85 percent; the average in FY 93 was 92 percent. Whether facilities can, over the long-term, continue to operate at such high levels is not known.

The program review committee staff reviewed data on capacity and waste generation available as of December 1, 1993 to try to determine the current situation concerning excess capacity. The results of the staff capacity analysis are summarized in Table IV-3. The key factor examined was the extent to which out-of-state waste now processed at Connecticut resources recovery facilities could be displaced with in-state waste.

Table IV-3 provides information on maximum or design capacity, average daily throughput amount based on actual FY 93 activity, and figures for 85 percent capacity levels for each facility operating or under construction within the state. Information on tons of waste processed per day during the last fiscal year, both overall and by source (member, in-state spot, and out-of state spot) is also shown. These figures were developed by program review committee staff from FY 93 waste delivery data.

Overall, it was found that the existing system has a design capacity of just under 6,000 tons per day and at present is using about 92 percent (5,545) of maximum capacity. Member and in-state spot waste account for 84 percent of total capacity used during FY 93 while out-of-state waste made up 16 percent. In the opinion of the program review committee, this amount (about 870 tons per day) can be considered excess capacity. It would be desirable to replace that amount with waste from Connecticut towns not yet using resources recovery facilities.

Information from DEP on waste generation within towns not currently using resources recovery facilities was analyzed to determine whether in-state waste was available in sufficient amounts to fill 870 tons per day of system capacity. According to program review staff calculations, the waste from all landfills and the two remaining municipal incinerators that are expected to close within the next few months equals about 605 tons per day. Data from towns that use landfills at present is often based on estimates and is known to contain some doublecounting and other inaccuracies so the 605 figure is likely to be generous. Waste from towns that committed to resources recovery facilities since July 1, 1993 account for another 175 tons per day approximately. Thus, an additional 780 tons per day of Connecticut waste either is or could be processed at waste-to-energy plants to replace the 870 tons per day of out-of-state waste. This assumes that all towns will decide to use the services of an in-state waste management facility, which may not be the case.

Table IV-3. LPR&IC Staff Analysis of Resources Recovery Facility Capacity in Connecticut

	BRIDGEPORT	MID-CT	WALLINGFORD	SOUTHEAST	BRISTOL	TOTAL EXISTING	LISBON*	TOTAL WITH LISBON
Design Capacity (TPD)	*2,250*	*2,000*	*420*	*600*	*650*	*5,920*	*500*	*6,420*
Avg. Thru-put (TPD)	*2,027*	*1,966*	*370*	*600*	*520*	*5,483*	*425*	*5,908*
85% of Design (TPD)	*1,913*	*1,700*	*357*	*510*	*553*	*5,032*	*425*	*5,457*
WASTE PROCESSED (FY 93 DATA)								
Total Tons	770,173	670,752	142,249	215,658	187,333	1,986,165	-	-
TPD Total Waste	2,110	1,838	390	591	513	5,442	-	-
% Design Capacity	94%	92%	93%	98%	79%	92%	-	-
TPD Member Waste	1,076	1,250	351	355	482	3,537	-	-
% Total Processed	51%	68%	90%	60%	94%	65%	-	-
TPD In-state Spot	528	239	39	201	31	1,052	-	-
% Total Processed	25%	13%	10%	34%	6%	19%	-	-
TPD Out-of-State Spot	506	349	4	35	0	871	-	-
% Total Processed	24%	19%	1%	6%	0%	16%	-	-

NOTE: TPD = tons per day

* Facility under construction

Sources of Data: DEP; CRRA; BRRFOC.

It appears from this rough analysis that the system will still have some reliance on out-of-state waste. If the three towns that are not planning to close the landfills they use (Manchester, Windsor, and Bloomfield) chose instead to use a resources recovery facility, their total estimated per day tonnage (about 170 TPD) could make up the difference. However, these figures do not reflect the fact that the Mid-Connecticut and Southeast projects have applied for and are likely to receive permission from DEP to make fuller use of their available capacity. It is expected that Southeast will add 90 tons and Mid-Connecticut 200 tons to the daily processing capacities allowed under their operating permits. Also, the analysis assumes that the Lisbon facility, when and if it opens, will operate at 85 percent capacity, or 425 tons per day, which is the amount of waste already committed to the plant's developer. If the Lisbon plant like the existing facilities operates at a higher level, system capacity for out-of-state waste may increase.

If it turns out that in-state supplies of waste are not adequate to support economical operation of existing resources recovery facilities, a number of policy questions, some of which require legislative action, will need to be addressed. There are two main approaches: reduce capacity or increase supply. Both have significant financial implications for taxpayers and customers of waste-to-energy plants

Capacity can be reduced by letting uneconomic plants fail. In the case of CRRA facilities, the member municipalities would be responsible for the outstanding debt and to a certain extent that the state backs authority bonds, all taxpayers could become liable. The authority could also decide on its own or at the direction of DEP or the legislature to "mothball" some of its capacity. As is the case in electric utilities, the authority could shut down an unneeded waste-to-energy plant until increased garbage supplies required it begin operating again. There would be expenses, perhaps substantial depending on debt service arrangements and maintenance requirements, associated with a decision to take a plant out of service.

Increased supplies of in-state waste could be achieved by expanding the categories of waste that can be processed at resources recovery facilities. For example, DEP could authorize on its own or at the direction of the legislature, burning of certain types of bulky waste (which is demolition and landclearing debris). The other alternative is to rely on waste generated out-of-state to fill resources recovery plant capacity in Connecticut. As noted above, available data indicate out-of-state waste will be needed to some extent by Connecticut resources recovery facilities, if only on a true spot basis. If the need for imported waste is substantial, electric subsidy as well as ash landfill implications have to be considered.

Given the significance of these issues, the committee believes it is critical for the legislature to have reliable, comprehensive information on facility capacity and the supply of waste. **Therefore, the program review committee recommends that the Department of Environmental Protection as part of its solid waste management planning responsibility monitor resources recovery facilities to determine the current status as well as future trends of excess capacity and reliance on out-of-state waste. This information should be included in the statewide solid waste management plan. It is also recommended that it be provided to the legislature's environment committee on an annual basis beginning in February 1994.**

Furthermore, the committee recommends that the current statewide solid waste management plan include a detailed analysis of additional types of waste and estimated amounts that could be processed by resources recovery facilities. According to environmental protection staff, the department already has plans to look at some of these matters. The committee believes these efforts should be made a priority.

The program review committee additionally believes activities to add new plants to the system should be suspended until the research and analysis outlined above is completed. **The committee recommends that a five-year moratorium on making a written determination of need for a resources recovery facility as provided under C.G.S. Sec. 22a-208d be instituted.**

Finally, the committee's examination of system capacity raised questions over the effectiveness of the present system for determining the need for new or expanded resources recovery facilities. Reservations about the data and methods DEP used determine need for the Lisbon waste-to-plant seemed to undermine confidence in the agency's decision to permit construction of that facility. Some critics had even suggested that proper procedures had not been followed and sources outside the agency had improperly influenced the permit decision. Given that an objective review could provide answers to many questions about the Lisbon decision, **it is recommended that a study of the Department of Environmental Protection process for determining the need for a resources recovery facility, focusing on the commissioner's decision to permit construction of the plant in Lisbon, Connecticut, be authorized be undertaken by the program review committee.** The committee voted to authorize staff to complete such a study during 1994. Among the specific points to be addressed are:

- a description of the DEP process for determining the need for the Lisbon resources recovery facility as established in statute and regulation and as carried out by the agency;

- a comparison of the findings and recommendations of the various DEP decisionmakers, identifying variations in assumptions and methodologies used;

- a comparison of data used in DEP staff analysis to support the decision the Lisbon facility is needed with relevant data used to prepare the 1991 statewide solid waste management plan;

- a review the technical qualifications of the DEP staff responsible for analyzing the need for the Lisbon facility, including a comparison with those of professionals doing comparable analysis;

- an evaluation of compliance of the Lisbon decision with the goals and polices of the statewide solid waste management plan, particularly those concerning recycling and source reduction;

- a review the Lisbon decision in consideration of the most current information and data with regard to waste generation and available capacity at existing resources recovery facilities;

- a determination of whether any ex parte communication on the pending permit applications occurred between the DEP hearing officers and other department personnel or external sources, including lawyers and lobbyists representing any of the interested parties; and

- a determination of whether any DEP official during the permitting process consulted with the interested parties or their attorneys or lobbyists about the analysis that led to the finding the Lisbon facility was needed.

APPENDICES

APPENDIX A

AGENCY RESPONSE

CONNECTICUT
RESOURCES
RECOVERY
AUTHORITY

179 ALLYN STREET • HARTFORD • CONNECTICUT • 06103 • TELEPHONE (203) 549-6390
FAX (203) 522-2390

June 15, 1994

Senator Judith G. Freedman
Representative Wade A. Hyslop, Jr.
Co-chairpersons Program Review
& Investigations Committee
Legislative Office Building
Hartford, CT 06106-1591

Re: Solid Waste Management Fees Study

Dear Senator Freedman and Representative Hyslop:

On behalf of the CRRA, I would like to commend your committee and staff for the in-depth analysis that was conducted during the past year on solid waste disposal in Connecticut. While CRRA does not agree with every recommendation that the committee adopted (such as the repeal of the municipal rate statute on electrical purchases), the report is generally a good overview of Connecticut's waste disposal system. CRRA is particularly pleased that 77% of the municipalities surveyed by the committee staff found our fees to be reasonable or very reasonable.

However, I must underscore that the recent Supreme Court decision that invalidated local "flow control" ordinances will significantly affect many of the staff's findings regarding the excess capacity at existing resources recovery facilities in Connecticut. Under the Court's decision haulers can now legally take waste to cheap out-of-state landfills. Since most of the non-residential or commercial waste is controlled by haulers and not municipalities, it is highly likely that a good portion of that waste will go to out-of-state facilities. Moreover, Connecticut towns such as Stamford, Somers, Stafford and others are either currently taking there waste to out-of-state facilities or are about to sign contracts to do so. Migration of this waste to out-of-state landfills will significantly increase the excess capacity in the state.

One specific issue with regard to the existing facilities that must be re-visited by staff in order to reflect real world data in the sequel to this report, is the actual operating capacities of the plants. In calculating excess capacity in this report, the committee staff has adopted DEP's theoretical assumption that the plants will only operate at 85% of availability. That assumption is the same fatal flaw utilized by the DEP in determining need for the proposed Lisbon plant. Actual operating

experience in all the existing facilities shows that these facilities will operate between 90% and 100% of availability. Accounting for that difference not only significantly increases the excess capacity numbers but completely obviates the need for the Lisbon plant.

Also the enormous amounts of out-of-state waste that was imported during the last fiscal year has continued to grow. Even with all but three landfills closed in Connecticut, out-of-state waste deliveries during the first three quarters of this fiscal year have not subsided as predicted by the DEP and others. In fact, there has been an increase in imported waste.

The result of all of the facts described above will have the consequence of worsening the current excess capacity situation at existing resources recovery facilities in Connecticut. In light of these recent developments, I would encourage you to direct your staff to vigorously monitor the excess capacity situation in its follow-up report on the DEP's determination of need of the proposed Lisbon plant. I would caution you to not rely on outdated data and hypothetical assumptions that will distort the actual situation that exists today.

Yours truly,

William R. Darcy
President

cc: Committee members

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

June 10, 1994

Jill Jensen
Principal Analyst
Legislative Program Review and Investigations Committee
State Capitol
Room 506
Hartford, CT 06106-1591

Re: Department of Environmental Response to Legislative Program Review and Investigations Committee Final Report on CRRA Solid Waste Management Fees - Chapter IV Findings & Recommendations

Dear Ms. Jensen:

I would like to take this opportunity to thank you for providing a copy of the Final Report on CRRA Solid Waste Management Fees - Chapter IV Findings & Recommendations prior to printing. I offer the following responses:

Page 2 *

The U.S. Supreme Court on May 16, 1994 in its decision in the Carbone v. Clarkstown case ruled that flow control was unconstitutional. The impact of that decision on the state solid waste management program is currently under review by the DEP and the Attorney General. Congressional action to validate flow control is presently under consideration.

Page 3

Equalization of fees between CRRA and non-CRRA project municipalities would be difficult to achieve. Non-CRRA project municipalities would include those using the Bristol project and those using the vendor capacity in CRRA projects.

Page 4

Most, not "some" of the low cost landfills are located out-of-state.

The Southeast Connecticut Regional Resource Recovery ash landfill in Montville is now operational.

Page 5

135 Connecticut municipalities have long term (5 years or more) contracts for use of resource recovery facilities.

Page 6

The placing of a surcharge on all spot market waste processed in Connecticut could raise the total tip fee to a level which would result in spot waste being diverted to out of state facilities. This would reduce project revenues.

The placing of a surcharge on all non-member waste deliveries could be an incentive to towns **not** under long term contracts to join the project they use, or they may chose to use cheaper out of state facilities.

*LPR&IC NOTE: Page numbers refer to final draft document

Page 7

To assist in complying with the recommendation that CRRA/SECRRA develop a strategy to attract new members a listing of existing members and their contracted capacities is attached.

Page 10

The recommendation to amend Section 22a-261(g) Connecticut General Statutes was adopted by the passage of Public Act No. 94-200.

Page 16

Guaranteed through-put capacities for RRF's used in the 1991 State Solid Waste Plan ranged from 55% from Windham to 80% for Bridgeport.

The Mid-Connecticut plant as originally permitted projected to burn coal in one of its three boilers. CRRA is now modifying their operational procedures to utilize that capacity for processing RDF (municipal solid waste).

Page 17

An updated Table IV-2 Waste Delivers to CRRA Projects is attached.

Page 18

Since the preliminary report in December * the availability of alternative disposal options such as landfills has become more precise with the closure of all but five Connecticut MSW landfills. Those remaining open are:

·Windsor/Bloomfield	
·Manchester	
·Yaworski - Canterbury	Anticipated closure 1994
·NORCAP - East Windsor	Anticipated closure 1995
·Waste Management - New Milford	Anticipated closure 1996

Sincerely,

Robert E. Moore
Deputy Commissioner
Branch of Environmental Quality

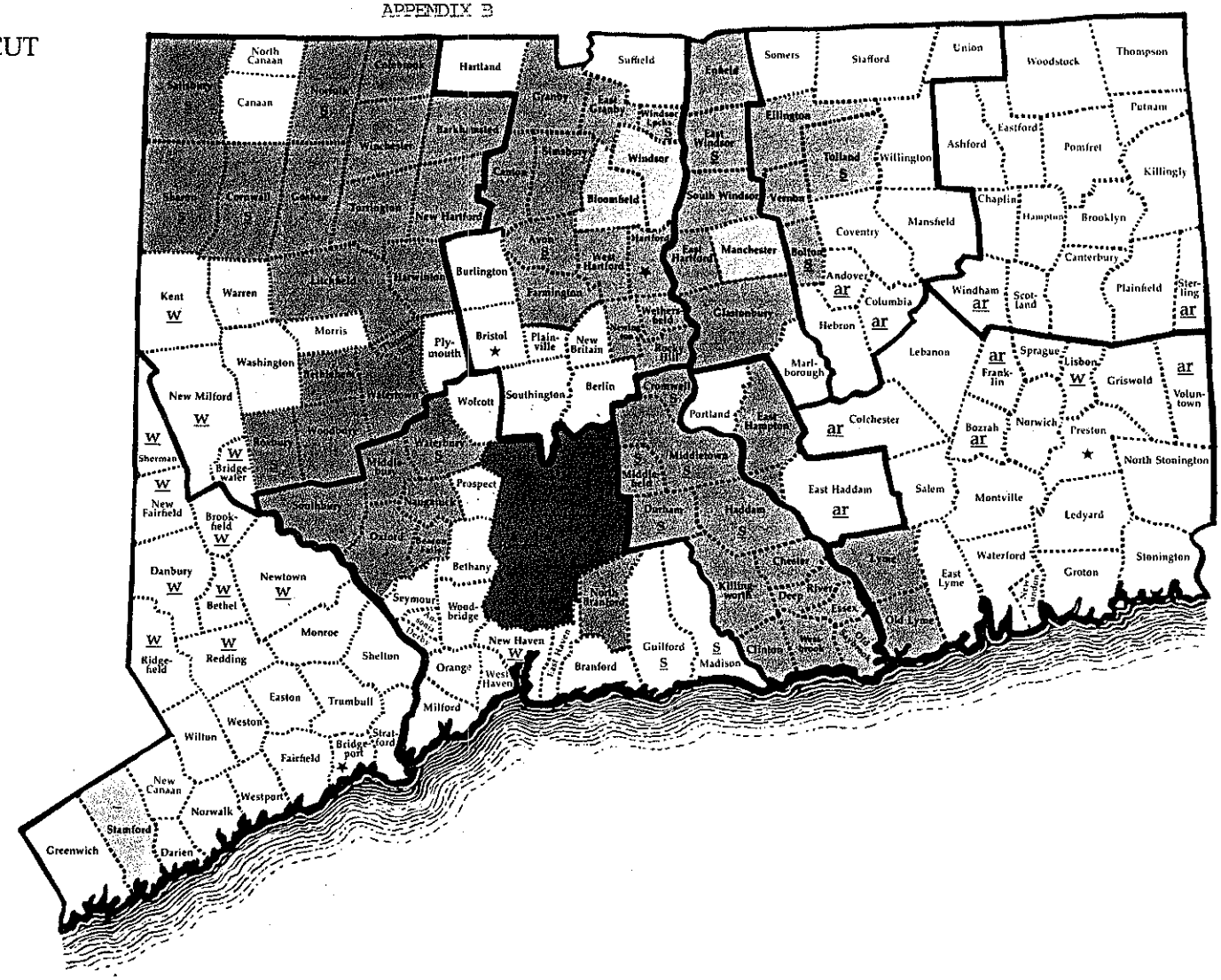
Attachments

* LPR&IC NOTE: refers to Staff Findings and Recommendations, December 17, 1993.

APPENDIX B

RESOURCES RECOVERY PROJECTS IN CONNECTICUT

November 1993



KEY

CRRA PROJECTS

- ☐ *Greater Bridgeport*
- ▨ *Mid-Connecticut*
- ■ *Wallingford*
- ☐ *Southeastern*

s *Denotes non-member towns delivering through a service agreement.*

OTHER PROJECTS

- ☐ *Bristol*

FACILITY OPERATOR CONTRACT TOWNS

- ☐ w *Denotes Wheelabrator Service Contract*
- ☐ ar *Denotes American Ref-Fuel Service Contract*
- ☐ **LONG TERM LANDFILLS**
- ☐ **CONTRACT PENDING FOR INSTATE OR OUT-OF-STATE SERVICE**

★ Plant locations

Source: CRRA

APPENDIX C

Average Cents/Kilowatt Hour Paid for Waste-to-Energy Plant Electricity by State as of 1993		
STATE	**MEAN PRICE**	**NUMBER PLANTS**
CA	8.76	5
CT	8.42	6
DE	2.60	1
FL	3.24	11
GA	3.00	1
HI	7.00	1
IL	8.07	3
IN	2.00	1
MA	6.38	8
MD	3.50	2
ME	9.68	4
MI	5.33	3
MN	2.75	2
NH	11.89	2
NJ	5.06	5
NY	6.01	14
NC	3.30	2
OH	5.00	3
OK	4.20	1
OR	5.69	1
PA	5.16	7
RI	4.25	1
SC	2.60	1
TN	2.59	2
TX	1.50	1
VA	3.60	2
VT	3.60	1
WA	3.47	3
WI	2.53	2

Source of Data: Government Advisory Associates, 1993-94 Resources Recovery Yearbook.

APPENDIX D

LEGISLATIVE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE MUNICIPAL SURVEY (1993)
Total Number of Responses to Survey = 105

1. Title of individual completing this survey:
   14%1) Mayor
   45%2) First Selectman
   12%3) Town or City Manager
   30%4) Other *(e.g., public works dir.)*
   N = 104

2. Current population of your municipality:
   40%1) Under 10,000
   48%2) 10,000 to 50,000
   12%3) Over 50,000
   N = 99

3. County: 13%Fairfield 16%Hartford 11%Litchfield 7%Middlesex 20%New Haven 16%New London 9%Tolland 9%Windham N = 105

4. Approximate annual tonnage of municipal solid waste generated by your municipality (including recyclables):
   25 - 110,000 tons per year N = 94

5. What is your city or town's primary method for disposing of its municipal solid waste at present?
   11%1) Local landfill
   3%2) Other landfill
   84%3) Resources recovery (waste-to-energy) facility
   2%4) Other (e.g., combination landfill & resources recovery)
   N = 105

6. Do you expect any significant change in the way your municipality manages its solid waste over the next 12 months? 82%No 18%Yes N = 97
   6A. IF YES, what _____

7. If your municipality uses a resources recovery facility, what is the current arrangement for services?
   69%1) Project member (under contract)
   26%2) Not a member but under a short-term contract or written agreement
   6%3) "Spot market" customer (no contract or agreement)
   N = 90

   7A. Which resources recovery facility does your municipality use at present:
   17%1) Bridgeport
   37%2) Mid-Connecticut (Hartford)
   2%3) Wallingford
   23%4) Southeast (Preston)
   11%5) Bristol
   10%6) Other *(e.g., Wheelabrator, combination)*
   N = 89

   7B. What tip fee is your municipality currently charged for resources recovery services? *$45-128* per ton N = 85

   7C. How would you rate this fee: 15% Very reasonable 62% Reasonable 16% Unreasonable 7% Very unreasonable N = 86

   7D. As you probably know, the tip fees municipalities pay for resources recovery services vary greatly for a number of reasons. At present, some municipalities pay less than $50 per ton while others pay over $100 per ton to dispose of waste at a resources recovery facility. Would you support or oppose state legislative efforts aimed at equalizing resources recovery tip fees among Connecticut cities and towns even if the price your municipality pays increases as a result?
   12%Strongly support 25%Support 32%Oppose 32%Strongly oppose
   N = 89

8. If your municipality is ***not*** a member of a resources recovery project, list the major reason(s) why below.

9. Is your municipality a member or regular user of a Connecticut Resources Recovery Authority (CRRA) waste-to-energy project at present? 35%No 65%Yes N = 99
   9A. Why or why not? Briefly list the main reason(s).

(continued on back)

10. How familiar are you with the Connecticut Resources Recovery Authority (CRRA)?
59%1) Very
33%2) Somewhat
8%3) Not very or not at all familiar ---> ***If you are not familiar with CRRA, please skip to Question 11 below.***
N=101

10A. How did you come to know about CRRA?
84%1) Direct dealings with CRRA
13%2) What you've heard or read about CRRA
3%3) Other (describe)_____
N=92

10B. Based on your experience or your impressions, how would you rate the job CRRA does in terms of the following areas:

	EXCELLENT	GOOD	FAIR	POOR
A) maintaining reasonable tip fees for member municipalities N=73	18%	47%	12%	23%
B) establishing a fair fee structure N=72	15%	46%	21%	18%
C) working to reduce costs and/or stabilize fees N=71	11%	47%	21%	21%
D) controlling overhead/administrative costs N=68	7%	43%	28%	22%
E) controlling operating costs N=71	9%	48%	27%	17%
F) responding to members' questions and concerns about project budgets and/or tip fees N=69	23%	42%	17%	17%
G) the overall quality of services at CRRA waste-to-energy facilities N=68	31%	54%	12%	3%
H) the overall quality of services at CRRA recycling facilities N=58	36%	45%	14%	5%

11. It has been suggested that solid waste management tip fees, like electric and other public utility rates, could be regulated by a state agency to promote fairness and control cost increases. Would you favor or oppose state regulation of tipping fees? 29%Favor 71%Oppose N=97
11A. Why? _____

12. Would you favor or oppose legislation that would require every municipality in the state to join a resources recovery project as a member? 39%Favor 61%Oppose N=93
12A. Why? _____

Please feel free to add any other comments or suggestions about CRRA fees or state policies and procedures regarding municipal solid waste management fees in general. (Attach a separate page, if needed).

Thank you for your participation.